OVERCOMING BARRIERS TO ADOPTION FOR INNOVATIONS IN POLICY

REFLECTIONS FROM THE INNOVATION TOOLKIT

CARALEIGH HOLVERSON

> *Innovation refers to an idea, embodied in a technology, product, or process, which is new and creates value. To be impactful, innovations must also be scalable, not merely one-off novelties.*
>
> —National Economic Council and Office of Science & Technology Policy "A Strategy for American Innovation," October 2015

The U.S. federal government is most likely not the first institution that comes to mind when considering agile, adaptive, and innovative new initiatives, but numerous federal departments and agencies have in fact been quietly moving toward such frameworks in recent years. This raises two questions: What does innovation look like in the current federal context? How can innovation thrive in a diverse, segmented, institutionally constrained, and risk-averse bureaucracy? Drawing from lessons on policy innovation from the Obama administration, I offer reflections based on an intensive nine-month research project for the Office of Science and Technology Policy (OSTP). The aim of the project was to gather findings to guide the development of a federal "Innovation Toolkit." The Toolkit—a digital knowledge-sharing resource for federal employees intended to debut in late 2017—aims not to spur innovation for innovation's sake, but to encourage the continual evolution of the federal bureaucracy toward a 21st-century government that works better and costs less. This effort to capture the broad range of recent innovative efforts and document how agencies have piloted, iterated, and scaled novel practices is

one component of a larger strategy to encourage the adoption of these innovative tools and mindsets throughout the government.

A review of the Innovation Toolkit research process and its findings offers a window into the variety of active efforts taking place within executive branch agencies to diffuse and scale new ways of working across the government. In this article I will briefly explain the project's genesis and the efforts to bring the Toolkit to fruition; detail the theoretical grounding that motivated the endeavor; and explore challenges and strategies for supporting further dissemination of federal innovations.

To the reader curious (and perhaps skeptical) about the state of innovation in government, I offer an optimistic view of the prospects for continued growth of awareness, and in the adoption and adaptation of successful innovations systematically across the entirety of government. More innovation is occurring in the federal government than is commonly realized. Strong pockets of innovation exist in nearly every corner of the federal bureaucracy—not just from the usual suspects like NASA or the Defense Advanced Research Projects Agency but also in the Department of Health and Human Services and the U.S. Agency for International Development.

While most of the Toolkit research was focused on capturing the tactical knowledge necessary to implement specific innovative methods, the successful deployment, adoption, and adaptation of innovative tools was also a specific focal point. Our research found that achieving widescale transformational change often involves moving many levers in concert at once. In particular, successful efforts to introduce innovation require both "top-down" and "bottom-up" approaches; to sustain initiatives, concurrent efforts are necessary at both the individual and enterprise-level. Although it is true that many government agencies are governed by a culture of compliance and risk aversion, our research found a significant distinction between the commonly perceived barriers to innovation and the actual obstacles, which are often more rooted in tradition than regulation. Sustaining the progress made in recent years will require a concerted effort across federal agencies to foster a culture that embraces continuous learning, experimentation, and collaboration.

ABOUT THE AUTHOR

Caraleigh Holverson is the Cofounder and Managing Director of the Policy Design Lab, a consultancy that advances the implementation of evidence-based, innovative approaches that broadly benefit the public. Holverson served as the Policy Design Lab's primary author for the draft Innovation Toolkit content.

TEXT BOX 1. Key Findings from the Innovation Toolkit

- Concurrent work at the individual and enterprise levels is required to sustain initiatives.
- Tradition, not regulation, is more often at the root of barriers to innovation.
- Cross-agency shifts in culture and mindset are needed to build cultures that foster continuous learning, experimentation, and collaboration.
- Cultural shifts are already happening, as evidenced in the movement to build a federal innovation hub.

Our immersive research on how innovation is thought of, talked about, and executed in the federal ecosystem suggests that, beyond the specific processes and tools, successful innovation rests on building a culture and encouraging a mindset that values experimentation and openness. As the movement to build a federal innovation hub now transitions to a networked collaboration of peer innovators, it bodes well for the continued uptake and adoption of validated innovative tools throughout federal agencies.

THE INNOVATION TOOLKIT

The Innovation Toolkit was conceived in the Office of Science and Technology Policy in 2014. Its development and direction were led by Thomas Kalil, OSTP deputy director, and Daniel Correa, senior advisor for innovation policy. The Toolkit, which reflects their vision for innovative 21st-century government, was grounded by OSTP's collaborative approach to working in partnership with agencies and external actors. While the Toolkit was initiated by OSTP, its focus was consistently directed outward—either to spotlight agency-led work, or to demonstrate how future White House leadership could create partnerships with external stakeholders to achieve greater outcomes.

The methodological "tools" featured in the Toolkit follow the broad contours of federal innovation as first envisioned in the "Strategy for American Innovation," a bold policy-strategy document issued by the Obama administration in 2009 and updated in 2011 and 2015. In the October 2015 version, the administration confirmed plans to develop the Toolkit "to facilitate the broader adoption and awareness of a core set of innovative approaches" that had been successfully tested and validated in various pockets within the federal bureaucracy." Conceived of as a digital learning resource for federal employees, the Toolkit would "explain how and why these approaches can yield important results for the American people."[1.]

In the nine months preceding the end of the Obama administration in January 2017, Joshua Schoop, Philip Auerswald, and I engaged in an intensive research and documentation process to assist in creating content for the Toolkit. Our contribution was of course one piece in a sustained (and ongoing) crowdsourced effort to bring the Toolkit to fruition. Building on volunteer efforts

TEXT BOX 2. "Innovation" in the Federal Context

The scope of the Toolkit covered a range of innovative tools. Some approaches were structural—like appointing a chief innovation officer or starting an agency innovation lab—while others were programmatic, like introducing tiered grantmaking, an I-Corps (Innovation Corps) cohort, or prize competitions in agency programs. A select few focused on the power of White House leadership, such as the ability to spur collaborative, multi-agency grand challenges or convene external stakeholders and generate aligned public-private commitments. Broadly, though, these approaches can be distilled into several fundamental precepts. Innovation in the federal context entails:

- Building environments that encourage continuous learning, experimentation, and improvement
- Using modern tools and approaches to solving intractable problems
- Creating a government that is open, transparent, responsive, data-driven, evidence-based, and citizen-centered
- Setting ambitious goals that can be achieved only with a combination of direct action by the federal government and the mobilization of collaborative efforts from other actors (including companies, nonprofits, foundations, and state and local government)
- Sourcing outside expertise to enhance day-to-day effectiveness through flexible hiring authorities, public-private partnerships, crowdsourcing initiatives, and prize competitions
- Prioritizing agility, openness, and data-driven decisionmaking as default ways of working[*]

[*] Thomas Kalil, unpublished memo, April 11, 2016.

of a cadre of Presidential Management Fellows and with direction from OSTP, we engaged more than 150 innovative change agents in substantive content review or in-depth interviews. The majority were established champions of innovation, including senior leaders, career employees, and accomplished subject-matter experts who were enthusiastically serving a "tour of duty" with the federal government.

Our approach was adaptive and it reflected the applied nature of the content. We conducted a review of the public innovation and change management literature, but were primarily focused on synthesizing practical insights from the considerable internal documentation shared by agency leaders and OSTP staff. Qualitative research methods guided our interview selection and content coding process. From hundreds of hours of audio and thousands of pages of documentation, we developed nearly

TEXT BOX 3. The Goals of the Innovation Toolkit, as Envisioned by Thomas Kalil, Deputy Director of OSTP

- Increase awareness at all levels of the federal government of innovative approaches that have track records of success in the public sector.
- Strengthen the knowledge and evidence base about how and under what circumstances to use these approaches.
- Promote the increased and effective adoption of these approaches when appropriate.
- Encourage the identification, documentation, and sharing of promising practices through communities of practice—within agencies, across agencies, across levels of government, between government and the private sector.
- Increase the chances that the knowledge and use of these effective, nonpartisan approaches will persist across administrations, especially given that they are nonpartisan.[*]

[*] Thomas Kalil, unpublished memorandum, April 11, 2016.

550 pages of content to be divided modularly in a digital format. Sixteen specific content areas described in detail the effective methods and frameworks that agencies and their changemakers could use to pursue specific goals, like launching a prize competition to elicit new ideas and solutions, or applying innovative methodologies like Lean Startup and human-centered design to make government service delivery more efficient and responsive. Several dozen case studies illustrated how these innovative tools have been applied by federal innovators to achieve their agency missions more effectively, and often at a lower cost. We also worked with staff from the U.S. Agency for International Development and Health and Human Services to create "deep-dive" case studies on their respective agencies, which have both been marked in recent years by systemic advances in initiating and institutionalizing innovation. The reason for focusing deeply on two of the most mature instances of federal innovation was to understand how the process of change had taken place, and to illuminate how innovation efforts can evolve when used by other innovators wishing to drive transformative change in their agencies.

In chronicling successful initiatives from dozens of agencies, we found enthusiastic champions for innovation in nearly every corner of the federal government. It felt at times like we were creating an "innovators' yearbook" as we raced against the clock to capture the tacit knowledge in the minds of the changemakers who were integrally involved in the most successful recent innovation initiatives, many of whom were soon to leave federal service. No matter what was to come next politically, a large degree of personnel transition and turnover was about to occur with

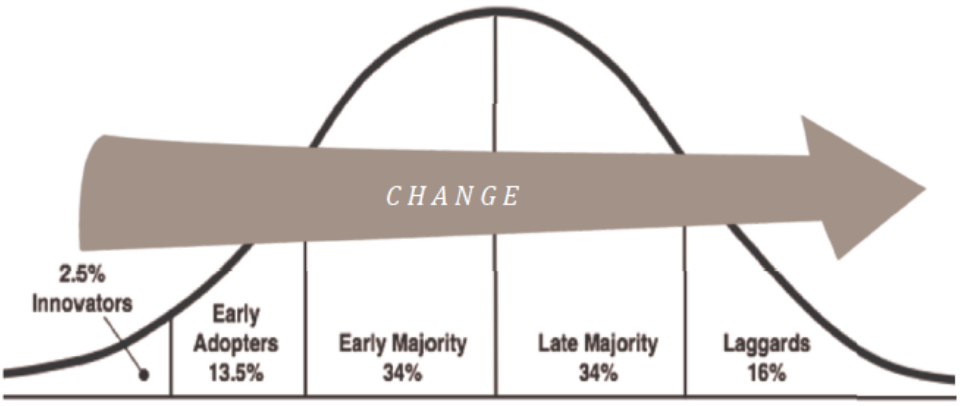

Figure 1. The Adoption Curve Framework

Image reproduced under Creative Commons license.

the changeover in administrations—but there was never a hint of partisan flavor to the endeavor. Thus, our animating vision was to capture this knowledge in the hope of lessening the learning curve for future innovators, and in so doing to continue to improve the functioning of core processes of government.

The goal was not just to tell stories of great innovation but to shine a light on good ideas and lay out a blueprint for future innovators: "Here is how to do it, what will be most effective, and who you can call for help." In documenting practical guidance and resources on the "hows" that underline these solutions, our aim was to offer insights that both senior leadership and program managers would find relevant for deploying innovative levers from their particular vantage points.

There can be a dangerous temptation to draw overly broad generalities or to imply that "innovation in the government" can be usefully interrogated as a singular or unified concept. In fact, our research for the Toolkit involved multiple overlapping communities within the federal government, and we attempted to capture the breadth of activity taking place in dozens of agencies, each of them tackling unique challenges with different skillsets, time horizons, and working definitions of what constituted innovation. Precisely because of that broad scope, however, our task created a unique vantage point from which to survey the myriad innovation efforts taking place throughout the federal government.

THEORY OF CHANGE: TARGETING THE EARLY MAJORITY

Much of our research centered on drawing out the tacit knowledge held by innovation practitioners, but, as described, the Toolkit was also deeply informed by existing bodies of research

on innovation. The literature on innovation (and organizational change management) is rife with theories on how large-scale transformation can occur.[2] Everett Rogers' adoption innovation curve and Geoffrey Moore's contribution to that framework provided the most direct guidance for the theory of change underlying the Toolkit. (Rogers' adoption curve was also repeatedly referenced by senior leaders as a decisive influence in their innovation portfolio strategies.) As Rogers chronicled, the spread of new ideas often follows a distinct sequence. Early innovators champion a new idea, creating awareness for the innovation; the knowledge is then diffused throughout the system, where other individuals are persuaded by evidence of its efficacy to adopt and implement the novel concept into their own work. Early adopters seek the comfort of numbers and initial precedent, but they will enthusiastically embrace the promise of a new idea. Late adopters may be even more cautious but also will respond to validated evidence of success. As uptake increases, a multiplier effect takes hold, eventually leading to a tipping point where widespread adoption is achieved.[3]

One drawback to the adoption curve framework is that it can imply a more simplified, deterministic progression to the change process than is often the reality. Actual adoption is frequently uglier, messier, and more time-consuming than the graph might suggest, and successful adoption of an innovation is reliant upon change agents working purposefully toward that end. Despite that caveat, the framing functioned as useful intellectual scaffolding for both the Toolkit's content development and the underlying rationale for its creation. The content was framed with the goal of crossing the "chasm" Moore identified—that is, to move past the early stage of innovation, when a few enthusiastic early adopters evangelize the use of a novel approach, to the latter stages, when a majority of potential users recognize the value of the approach and accept its use as a given. The how-to insights and case studies we prepared were designed with an eye toward bridging the gap between the core innovators and early adopters, and the broader early majority. The Toolkit summarizes the successful initiatives of the early adopters for that early majority, who are thought to be process oriented, pragmatic, and needing evidence of success. Winning over the early majority of civil servants—those who might be curious and open to trying new methods, but who also need to be persuaded of the value of a new innovative tool and learn how to implement it in their work—was seen as the next step in achieving widescale use of these innovative tools.

Different departments and agencies exist at different points along the adoption curve, with many federal agencies progressively adopting one or more of the innovative approaches comprising the Innovation Toolkit. However, relative to the full scale of the federal government, the market share of the approaches comprising the Innovation Toolkit remains low. One reason for this is that the approaches themselves are relatively new, and awareness and understanding remain limited. A second reason is that much structured support for would-be innovation adopters has been under-resourced or scattered and siloed. The most significant reason for this low market share, however,

relates to the challenges of introducing innovations in the federal context. Those challenges—and strategies for increasing uptake—are the focus of the rest of this paper.

ADOPTION BARRIERS: PERCEIVED VERSUS REAL OBSTACLES

Perceived Barriers

Change management on any large, institutional scale entails its own set of challenges. I will briefly explore some of the recurrent barriers to adoption we found during our research. However, it may be more instructive to first explore examples of some of the perceived obstacles to deploying innovations in government. While the public sector may be institutionally averse to risk-taking, many of the common concerns are not really the insurmountable barriers they are often understood to be. Our research found that regulation is often presented as the chief obstacle to innovation, but that often fails to stand up to close scrutiny. New initiatives often encounter resistance that is grounded in tradition, as opposed to black-letter law. Besides recalcitrant "But we've always done it this way" attitudes, there is frequently a lack of clarity about the actual requirements of a given law or regulation. An aspiring innovator may be told, "No, you can't do that," when in reality the new ways of working are fully compliant with existing laws and regulations. This is most evident in areas like recruitment and procurement, where well-meaning human resource and contracting officers may be unfamiliar with lesser-known mechanisms such as flexible hiring authorities or innovative contracting approaches. Schedule A(r) fellowship hiring authority, which permits term appointments for "tours of duty" of up to four years and can source applicants without using the USAJOBS.gov portal, is a hiring mechanism excepted from many requirements and available to all federal agencies (see 5 CFR 213.3102 (r)). Its use has been limited, ostensibly because many human resource officers are not acquainted with the scope of its potential application. And while the Federal Acquisition Regulations (FAR) are often seen as strongly inhibiting experimentation with new approaches for issuing federal contracts, the code governing contracting matters finds that "reasonable risk-taking is appropriate as long as risks are controlled and mitigated."[4.] A number of "innovative contracting" approaches piloted in recent years operate wholly within the existing confines of the FAR, as explored in Text Box 4 (see next page).

Two additional examples of misunderstood regulations that can unnecessarily inhibit the use of new methodologies such as Lean Startup or human-centered design include the Paperwork Reduction Act, which governs federal employees' communications with the public, and Section 508, which by law requires information presented to the public to be accessible to all. Compliance with Paperwork Reduction Act procedures can be incorrectly understood as limiting certain types of communication with external stakeholders, but in fact it does not apply to cases of limited user testing or customer discovery (e.g., if the information is not "structured" or has been compiled on fewer than nine individuals). And, while compliance with Section 508 is required for digital and web develop-

TEXT BOX 4. Innovative Approaches to Contracting

The federal acquisition workforce is responsible for awarding and administering more than $450 billion in contracts each year.* There are a variety of newer, easier, more effective acquisition models and processes that can be used under existing regulations and authorities to help agencies maximize value while minimizing their spending. These innovative contracting approaches emphasize buying what works and paying only for successful outcomes. They also share an emphasis on stimulating demand in the marketplace for new solutions. As "demand-pull" mechanisms, they can offer federal agencies the ability to discover, prove, and scale novel solutions and more impactful outcomes. These approaches include:

- Rapid technology prototyping to try out new technologies rapidly and inexpensively
- Staged contracts to solicit proposals and quickly assess their merits
- Competitive milestone-based payments to attract new solutions to well-defined, multistage problems
- Incentive prizes to source new ideas from citizen problem-solvers
- Challenge-based acquisitions to break the entry barrier for new actors, like startup firms
- Nonbinding purchase agreements to collaborate with industry and incentivize new solutions, without firmly committing to future purchases
- Advance market commitments to create new markets and commit to long-term pricing for purchases+

* "Overview of Awards by Fiscal Year," USASpending.gov, 2017.

+ "Innovative Contracting Case Studies," White House Office of Science and Technology Policy, 2014

ment, that requirement applies only to official government products and services; it does not govern prototypes or experimental products and services that have not yet been made official. Regardless of the law in question, one of the key findings of our research is that, to enable innovators to overcome resistance, it's essential to distinguish recommendations from regulations. One of the most powerful antidotes is to go to the source and not to rely on mythic understanding of where the boundary lines lie.

Real Obstacles

Besides the perceived challenges, a variety of genuine—and pernicious—barriers also inhibit the adoption of innovation. Next I offer a brief review of three broader factors that exacerbate the challenge of scaling innovation—skepticism, risk aversion, and defenders of the status quo—and offer thoughts on their remedy. The consideration of culture and how to build a culture of innovation merit extended consideration in the following section.

Innovation is an overused word for which, regrettably, there is no good substitute. Many process changes termed innovative are not, which can have the unfortunate effect of tarnishing the term with suspicion. Many career civil servants may be predisposed to skepticism about new initiatives to support innovation, in part because of their experience with agency-wide efforts that came before. This can be compounded by the short tenure of political appointees, who may not serve long enough to see their innovations institutionalized. Combatting skepticism therefore requires evidence of real results. Interviewees told us that starting small with pilots or experiments that demonstrate success can help build momentum by creating a positive feedback loop. As the value of a new approach becomes self-evident with early "quick wins," offices and subunits can become enthusiastic champions.

Resistance to innovation can also naturally emanate from structural constraints. The federal bureaucracy is inherently a constrained, risk-averse environment designed for accountability rather than flexibility. Furthermore, incentive structures within the public sector tend to penalize failure while inadequately rewarding experimentation. Civil servants, regardless of their innate desire to innovate, operate in a culture predicated on compliance, and agency staff are rightly concerned with having to answer to congressional mandates and file annual reports. Several interview subjects noted, for example, the pressure on contracting officers; their training and guidance stress their personal liability to prosecution for fraud, waste, or abuse. Federal innovation leaders do well to understand the civil service's vantage point and operational constraints: "The people who own the operations that government leaders would like to see 'innovated' aren't measured by innovation," writes Jennifer Pahlka, CEO of Code for America and a founding member of the U.S. Digital Service. She continues: "They are measured by (or perceive themselves to be measured by) stability, reliability, and compliance with a wide range of policies, laws, and regulations. And they retain the authority and resources to get those results in the face of any number of innovation initiatives imposed upon them."[5.]

At the same time, one must be careful; discussions about a compliance culture can descend, even unintentionally, into denigrating career civil service as overly cautious and uninterested in improvement. This is not only an unfair characterization, it can be actively detrimental to change initiatives. Many career civil servants were drawn to public service by their strong desire to make a positive contribution. They aren't looking for a lecture on why innovation is important, although they welcome tools that help perform their jobs more effectively.[6.] There's no incentive to innovate in an environment where risk-taking isn't rewarded, or where the dominant expectation is to cyclically repeat last year's performance. To move beyond innovation evangelists and into the mainstream, employees' incentives must be better aligned to reward experimentation and discovery.

Finally, one additional "headwind" merits brief mention: external stakeholders who can be more invested in the status quo than they are supportive of innovation. It is not surprising that the

TEXT BOX 5. Flexible Hiring Authorities and a "Tour of Duty" Approach

"Tours of duty" through flexible hiring mechanisms are a powerful complement to existing hiring processes. They empower agencies to engage and recruit top talent using a "call to serve" that can attract the best talent to work inside government for time-limited tours of duty.

Flexible hiring approaches can include the use of

- Intergovernmental Personnel Act (IPA)
- Direct Hire Authority (with permission from OPM)
- Schedule A Part R hiring authority
- Expert and Consultant Pay

Flexible hiring authorities have been a useful mechanism for directly addressing critical skill gaps in IT, cybersecurity, STEM, and human resources. "Tours of duty" are also a key—if under-recognized—pathway for introducing and diffusing modern and effective methodologies within government. The talent recruited to serve a tour bring with them leading private-sector practices, including agile development, human-centered design approaches, Lean Startup, and other entrepreneurial problem-solving mindsets.

visibly "disruptive" and innovative new kids on the block—18F and the U.S. Digital Service[7]—have faced considerable criticism, generated in part by "Beltway bandit" firms loudly sharing with Congress their displeasure with the disruption to lines of business.[8] This is natural, as they have adapted to government's default ways of doing business and have defined for themselves a complementary role within the traditional framework. One strategy for nurturing innovations that are particularly disruptive to established constituencies may be for innovators to broaden the scope of inquiry and ensure that citizens—those most likely to benefit from gains in efficiency or efficacy—are included in discussions along with proximal external stakeholders.

BUILDING A CULTURE OF INNOVATION IN GOVERNMENT

Embracing a Shift in Mindset

According to Gilman and Gover, "A culture of innovation means continuously exploring and adopting new processes in an ecosystem where risk is incentivized, not precluded by structural responsibilities."[9] In light of this view, perhaps the most pressing question is how agencies can engage in a process of genuine cultural transformation and create environments that encourage innovation from all. Many agencies have cultures that are not conducive to innovation tenets, like starting small, continuously iterating, or interacting frequently with users; moreover, according to the Office of Personnel Management's 2015 "Federal Employee Viewpoint Survey," only 37 percent of

federal employees feel that creativity and innovation are rewarded by their agency. Beginning to shift the culture within an agency requires more than launching an ever-greater number of pilot projects or launching expensive initiatives to modernize technology. It requires nurturing cultural norms and practices that support a growth mindset that is open to experimentation and continuous learning. Successful innovation efforts are not about introducing a new technology or tool but about encouraging an organization-wide mindset that embraces a rethinking of approaches.

Building a culture of innovation requires agency-wide openness to accepting good ideas that come from anywhere and recognizing that everyone can innovate.[10] Innovative methods are not mystical knowledge reserved for an elite few; they are concrete skills that can be learned. As Jen Pahlka observed, "User-centered, iterative, data-driven practices are not something young people in jeans do. They are not a gift bestowed on people from a certain place who look a certain way or speak a certain way or who come from certain companies. They are simply skills one learns, a bit like French or programming or origami."[11]

At their core, innovative methods entail learning new skills to solve problems in a new way. Different innovations may bring their own buzzword-laden terminologies, but whether using the lens of Lean Startup, agile development, or design thinking, there are common principles meant to elicit more effective approaches to problem-solving. This includes understanding the root problem using problem definition and decomposition frameworks like root-cause analysis, systems mapping, or backcasting; creatively sourcing new solutions; identifying the target user and incorporating them in the planning process; embracing continuous learning and frequent iteration responsive to feedback; using evidence to drive decisionmaking; and scaling only what can be validated.

Encouraging the uptake of innovative methods is therefore a question of how to create an enabling environment that not only permits but encourages a shift in mindset. Scaling and institutionalizing that new mindset is a matter of how to transmit the skills that can help public servants do their work more effectively.

Strategies for Encouraging Adoption

Reflecting the notion that "innovations arise when people are given a problem to solve instead of being told to implement a known solution,"[12] Tom Kalil writes of deploying a "large, constantly growing toolbox" (ref. Kalil in this issue) to encourage innovation. I would submit that Kalil and Correa's toolbox for innovation operates on two levels. In addition to the litany of specific approaches in the Innovation Toolkit (creating a chief innovation officer, launching a grand challenge, using human-centered design, etc.), Kalil and Correa shared a lengthy list of tested strategies for how to diffuse those innovations within and across agencies. I group their tactics into four broad categories: (1) supporting innovators institutionally; (2) creating enabling environments; (3) incentivizing and rewarding experimentation; and (4)

TEXT BOX 6. Tools for the Toolkit, or Meta-Levers for Spurring Adoption*

Support change seekers institutionally

- Garner (or become) a high-level champion and advocate to provide necessary cover.
- Use policy guidance to devolve decisionmaking within an agency and expedite experiments.
- Create different types of infrastructure that make new approaches easy to use, like blanket purchase agreements for contracting.
- Link the broader performance management agenda with specific innovative tools so that the agency mission connects directly with agency-led innovation.

Create enabling environments

- Create new organizations, like centers of excellence, that aren't burdened with existing operational responsibilities and can cultivate expertise in implementing new methods.
- Charter an innovation council to build capacity and coordination for broader adoption of particular approaches within an agency.
- Use accelerators to pilot new ideas and equip aspiring innovators with new tools for executing their ideas.

Incentivize and reward experimentation

- Formally recognize innovators through awards and acknowledgement, to show that innovation is rewarded and valued.
- Create integrated incentives for adoption at multiple levels within an agency by supporting skill-building, offering space to problem-solve, and valuing the outcomes.
- Link broad agency goals to individual performance management plans to align incentives.

Foster a culture of learning

- Create high-quality, updated, online resources that help federal employees (such as the Innovation Toolkit itself).
- Use experiential learning in professional development training to bridge the gap.

* Thomas Kalil, interview, Washington, DC, December 6, 2016.

fostering an empowered culture of learning. These approaches are often mutually reinforcing, rather than exclusionary. Kalil and Correa emphasized that an effective campaign for adoption often incorporates several of these tactics, as shown in Text Box 6.

Regardless of the levers selected to spur further dissemination and adoption of innovations, our research raises two important caveats. First, cookie-cutter solutions rarely succeed; innovative approaches work best when they are localized and adapted for specific

agency conditions. Bob Sutton has written on the perils of avoiding the "replication trap," using a provocative analogy of Catholics and Buddhists to contrast the choice between a high-fidelity reproduction of the method in question against an interpreted version that retains essential qualities but varies in some respects.[13.] The Toolkit interview subjects agreed on the importance of emphasizing general frameworks for a given approach, instead of imposing a preformed solution on top of an existing issue.

Second, change agents hoping to spread their ideas are well-served by using multipronged strategies to build support. Besides resource constraints, internal bureaucratic resistance and external skepticism are persistent barriers to innovation in the public sector, according to a 2014 study by Sanford Borins. Dr. Borins goes so far as to argue that "a defensive implementation strategy for gathering support and neutralizing opposition" is as essential for successful implementation as the actual planning and execution of the innovative approach.[14.]

Conversations with more than 30 federal innovators from NASA, the Department of Defense, Department of Labor, and National Security Agency affirmed that having multiple pathways to build support for innovative initiatives—an "all of the above" strategy—is often necessary. No one strategy is appropriate for every context, and generating buy-in for innovation can take a top-down, middle-out, bottom-up (or out) approach. Several approaches are often used concurrently. For instance, the support of high-level leadership is frequently a necessary but insufficient condition for innovation to flourish. One of the most consistent findings from our interviews was the need for support from senior leaders when undertaking new initiatives. Senior leaders were most successful when they clearly and consistently conveyed that using innovative approaches was not simply allowed but actively encouraged, and when staff clearly understood that intelligent risk-taking was rewarded.[15.] At the same time, innovations were unlikely to succeed if mandated unilaterally from above; indeed, such imposition is a surefire recipe for pushback. Spreading new, effective practices also requires what might be termed "bottom-out" strategy—which, in contrast with bottom-up change, is about horizontal, peer-to-peer mentoring and support in which the "top" is barely involved. Cultivating peer allies can be an effective complementary tactic, so long as innovators resist evangelizing or lecturing and keep the spotlight on problem-solving. Champions at all organizational levels can play a vital role in encouraging and supporting experimentation.

THE NEXT CHAPTER IN GOVERNMENT INNOVATION

The reflections offered here were drawn from our research to identify, document, and distill promising practices for the use of numerous innovative tools across the federal government. The Toolkit attempts to capture instructive case studies of both successes and challenges; note practical insights for navigating obstacles to deployment; and otherwise share findings that could strengthen the knowledge and evidence base of how and under what circum-

stances agencies might consider using innovative tools as a cost-effective way to accomplish their individual missions. At the same time, the effort to chronicle innovations and insights was designed to function as a "meta" lever for spreading those innovations further. In that vein, the Toolkit represents the culminating contribution of Tom Kalil, Dan Correa, and the entire OSTP team's multifaceted efforts to spur agency collaborations and diffuse useful knowledge across the government.

More systemic landscape analysis is still needed to rigorously quantify and understand the full scope of federal innovation efforts. One difficulty in mapping the full innovation ecosystem is the challenge of uncovering and talking honestly about failure, especially in a politicized climate where even neutral agency efforts can become partisan fuel. There are some rare exceptions of evolved agencies or sub-units, such as the Air Force Office of Transformational Innovation, which boldly boasts of a "failure button" and openly chronicles unsuccessful initiatives on their website to promote transparency and learning, but this attitude is not the norm.

The Innovation Toolkit—recently renamed the Better Government Toolkit, to emphasize its focus on empowering federal employees to achieve better results—is planned for public launch in late 2017. An early and explicit goal of the project was not simply to build a static repository of knowledge but to evolve to a co-created platform that might serve as a hub where innovators within government can connect and collaborate. Now officially located within the General Services Administration, the collaborative crowdsourced effort to finalize content is being led by Kelly Olson and Amy Wilson. The creation and launch of the new hub has moved in a direction that is not just user-centered but user-powered, with much of the remaining effort being crowdshared by a number of passionate federal innovators. Many of the change agents we interviewed across the government emphasized the significance of co-ownership and co-investment in innovation efforts. In moving toward the goal of inspiring a federal collective culture of experimentation that seeks new and more effective ways of working, the collaboration-driven innovation efforts to deploy the Toolkit augurs positively for its success.

---

1. National Economic Council and Office of Science and Technology Policy, "A Strategy for American Innovation," October 2015.
2. Among the core contributors to this literature are Robert Behn, Sanford Borins, Curt Carlson, Henry Chesbrough, William Eggers, John Kamensky, and Beth Simone Noveck.
3. Everett Rogers, *Diffusion of Innovations*. New York: Free Press, 2010.
4. See FAR 39.102(A).
5. Jennifer Pahlka, "The CIO Problem: Part 2. Innovation." Medium, May 31, 2016.
6. Aneesh Chopra, *Innovative State: How New Technologies Can Transform Government*. New York: Grove Press, 2014, p. 215.
7. 18F is a civic consultancy internal to the federal government that works for agencies to develop new tools and services. Similarly, USDS operates as an internal "startup" that deploys teams to help agencies tackle digital service challenges. Both were founded in 2014.
8. Jason Shueh, "IT Showdown: Tech Giants Face Off Against 18F." GovTech, July 1, 2016.

[9.] Hollie Russon Gilman and Jessica Gover, "The Architecture of Innovation: Institutionalizing Innovation in Federal Policymaking," Beeck Center for Social Impact and Innovation and the McCourt School of Public Policy at Georgetown University, October 2016, p. 7.

[10.] This echoes the view that "everyone can be a changemaker," the maxim advanced by social entrepreneurship organization Ashoka and its founder Bill Drayton (ref. Drayton's essay by that title in volume 1, number 1, of Innovations journal).

[11.] Jennifer Pahlka, "On Extraordinariness." Medium, August 2, 2016.

[12.] "Innovation Is a Contract Sport," Partnership for Public Service, February 6, 2016.

[13.] Robert Sutton, "Catholic or Buddhist Approach," eCorner Stanford, February 12, 2014; see also Robert Sutton and Huggy Rao, Scaling Up Excellence: Getting to More Without Settling for Less. New York: Crown Business, 2014.

[14.] Sanford Borins, "The Persistence of Innovation in Government: A Guide for Innovative Public Servants," IBM Center for the Business of Government, 2014, p. 29.

[15.] Thomas Kalil, interview, Washington, DC, December 6, 2016.