Innovation Definition: What is Government Innovation? (V8)

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# Overview

When government works better, lives are improved and civic confidence grows. In order for government to work better, the practices of government must continually improve and evolve. In other words, government must continually innovate. Rapid social and technological changes intensify the imperative of innovation. Addressing unique challenges and opportunities of 21st century, like the governance of emerging technologies and increased global interdependence, will require innovation. This imperative is enhanced by three specific revolutions that are occurring within parallel, and driving forward innovation in the public sector: Data, digital, and design.

# Defining Innovation

In the most recent update to President Obama’s [Strategy for American Innovation](https://www.whitehouse.gov/sites/default/files/strategy_for_american_innovation_october_2015.pdf) in 2015, the National Economic Council and the White House Office of Science and Technology Policy outlined their definition of innovation:

*“Innovation refers to an idea, embodied in a technology, product, service, or process, which is new and creates value. To be impactful, innovations must also be scalable, not merely one-off novelties.” -- Strategy for American Innovation*

This Strategy focuses on two broad categories of innovation:

1. **Innovation to drive economic growth and address national priorities:** New technologies, products, processes, and business models can drive economic growth, job creation, and increases in productivity. These innovations flow not only from the development of new technologies (e.g. cloud computing, the integration of IT with objects in the physical world through the “Internet of Things,” predictive data analytics, advanced materials, energy storage, lifesaving drugs), but also from novel applications of these technologies and new business models that create economic and societal value.
2. **Institutional and public-sector innovation:** Historically, some of the most important innovations have been institutional innovations, such as the creation of the patent system, the agricultural extension service, the modern research university, and the peer-review system for supporting basic research. Institutional innovation and experimentation are needed both to improve the performance of the Federal Government and to create a better environment for innovation for the private sector and civil society. Examples of public-sector innovations include paying for results as opposed to paying for inputs; tapping the ingenuity of the American people to solve problems using incentive prizes; using a “test-validate-scale” approach to find and fund what works; and bringing entrepreneurs and world-class technical experts into the Federal Government to transform digital services for the American people.

## Government Innovation Core Principles

When creating a culture of innovation within the Federal government, we’ve outlined a series of principles that should guide your decisions:

### Designing a Citizen-Centered Government

* **Design for the citizen.** As “public servants”, each member of the Federal government should have a singular user in mind for its products and services--the American citizen. The type of citizen may vary by agency or team, but the basic principle stays that same.
* **Listen more, talk less.** Often, we assume that we know the solution to citizens’ problems, but rarely take the time to listen to their concerns. Key insights are gained from listening to others and talking less ourselves.
* **Celebrate empathy, openness & honesty.** To design for the citizen first it involves putting yourself in her shoes to see the world from her perspective, but also getting out and talking to her to find out her needs and wants. Good relationships are built on openness and honesty.
* **Radical collaboration to evolve citizen engagement.** Joy's law is the principle that "no matter who you are, most of the smartest people work for someone else.” As the world and technology become more interconnected we no longer can deny that problems can be solved by a one person or a small group of people. Collaborative skills have never been more important, and these skills are absolutely necessary to solve the biggest problems our country faces.

### Infuse Innovation into the Culture

* **Embrace ambiguity, creativity & flexibility.** Often, when you’re creating new value as in innovation, there will not be a clear path ahead. Forging new ground requires being comfortable with not knowing where the path will lead you, and a big dose of creativity to be flexible with the outcome and agile in the process of creation.
* **Bias to action.** Sometimes in the process of empathy building a creating there’s a tendency to stay in design mode, resulting in “analysis paralysis”. Frequently look for ways to move the needle forward--to create more value.
* **Focus on individual accountability.** The innovation movement as a whole is only as powerful as the people within it. Focus on each individual’s growth, creativity, and ideas to change their mindset to innovation. The entire system will succeed.
* **Create a culture of experimentation.** Probably the most widely-used core innovation principle, this is simply being open to the idea of trying new things, and also being okay with failing with some ideas and succeeding in others.
* **Build-Measure-Learn.** This three-legged loop is the core of creating new value within Lean Startup methods and in government. Understand the user through feedback loops and build your technology, product or process with that user or users in mind, measure its progress, and learn from your users on how you’re doing. Repeat.
* **Fail often, fail fast.** A core principle of Lean methodology and linked to a culture of experimentation--when you’re creating new value you want to learn and quickly as possible so that you can build the best possible solution faster
* **Lead a strategy of subtraction, not always of addition.** Creating new value doesn’t always creating something NEW. It could mean taking multiple products, services, or processes and combining them into one that eliminates redundancies or removing a process that impedes the flow of other components in a system. Look at both options when making decisions.
* **Kill off projects that aren’t performing well to make room for projects that will.** Sometimes creating new value is sunsetting or “killing” some projects or outdated infrastructure to make ways for others. Money and resources from those projects could be repurposed to create something that works.
* **Incentivize for product or service improvement.** Simply put, many people within a system will innovate unless there’s a clear incentive for them to do so. Think of ways that would incentivize teams to action, which can include including innovation into performance evaluations, monetary or non-cash options that would create a sense of urgency.

## Why Innovate?

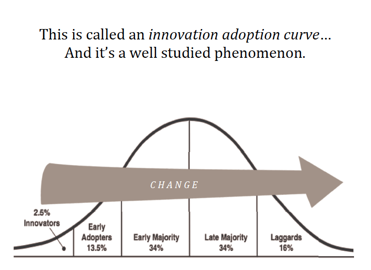
The power of the federal government is in the reach and scale of its work. That reach and scale creates opportunities and challenges for innovation. Meeting the innovation imperative within government is not about launching ever-greater numbers of pilot projects that don’t grow. It’s about developing cultural norms and practices that support increased awareness, adoption, and adaptation of successful innovations systematically across the entirety of government. Moreover, innovation is not a process with a fixed beginning and ending. It is the presence of a culture within an institution that prompts continuous action to improve processes to meet goals. Innovation is about encouraging a problem-solving mindset organization-wide, and using new tools and approaches to achieve greater mission impact.

## How to Innovate

Encouraging the uptake of innovative methods is, at its core, a question of how to create an enabling environment that not only permits but encourages innovation, and how to transmit the skills and capabilities that can help public servants more effectively do the work of government.

### Innovation Adoption Curve

[Everett Rogers](https://en.wikipedia.org/wiki/Everett_Rogers), in this book *Diffusion of Innovations* in 1962 showed that not everyone in a system will immediately adopt a disruptive idea despite obvious benefits. His research yielded the “Diffusions of Innovation Theory” or the “Innovation Adoption Curve”



Over years of research, Rogers identified traits of specific groups in a larger system that help us organize how people will accept a new innovation. It turns out we approach innovations in the following ways:

* **Innovators (2.5% of the Whole):** Innovators are the first individuals to adopt an innovation. Innovators are willing to take risks, youngest in age, have the highest social class, have great financial lucidity, very social and have closest contact to scientific sources and interaction with other innovators. Risk tolerance has them adopting technologies which may ultimately fail. Financial resources help absorb these failures. ([Rogers 1962 5th ed](http://en.wikipedia.org/wiki/Diffusion_of_innovations#CITEREFRogers1962_5th_ed), p. 282)
* **Early Adopters (13.5%)**: This is the second fastest category of individuals who adopt an innovation. These individuals have the highest degree of opinion leadership among the other adopter categories. Early adopters are typically younger in age, have a higher social status, have more financial lucidity, advanced education, and are more socially forward than late adopters. More discrete in adoption choices than innovators. Realize judicious choice of adoption will help them maintain central communication position ([Rogers 1962 5th ed](http://en.wikipedia.org/wiki/Diffusion_of_innovations#CITEREFRogers1962_5th_ed), p. 283).
* **Early Majority (34%):** Individuals in this category adopt an innovation after a varying degree of time. This time of adoption is significantly longer than the innovators and early adopters. Early Majority tend to be slower in the adoption process, have above average social status, contact with early adopters, and seldom hold positions of opinion leadership in a system ([Rogers 1962 5th ed](http://en.wikipedia.org/wiki/Diffusion_of_innovations#CITEREFRogers1962_5th_ed), p. 283)
* **Late Majority (34%):** Individuals in this category will adopt an innovation after the average member of the society. These individuals approach an innovation with a high degree of skepticism and after the majority of society has adopted the innovation. Late Majority are typically skeptical about an innovation, have below average social status, very little financial lucidity, in contrast with others in late majority and early majority, very little opinion leadership.
* **Laggards (16%):** Individuals in this category are the last to adopt an innovation. Unlike some of the previous categories, individuals in this category show little to no opinion leadership. These individuals typically have an aversion to change-agents and tend to be advanced in age. Laggards typically tend to be focused on “traditions”, likely to have lowest social status, lowest financial fluidity, be oldest of all other adopters, in contact with only family and close friends, very little to no opinion leadership.

Departments and agencies are at different points along the adoption curve, but evidence from multiple sources points to a few key structural elements of successful approaches to increase awareness, adoption, and adaptation of innovation within government.These include:

* 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
* Doing more with less
* Setting ambitious goals that are potentially achievable only through a combination of direct action by the federal government and the mobilization of collaborative efforts potentially involving companies, non-profits, philanthropists, and state and local government
* Sourcing, and then utilizing, outside expertise to enhance day-to-day effectiveness. Flexible hiring authority, public-private partnerships, and prize competitions are a few of the ways that government can do this.
* Prioritizing agility, openness, and data-driven decision making as default ways of working.

### Breaking down the buzzwords [[Sidebar]]

At its core, **innovative methods are about solving problems more effectively**. But “innovative dialects” bring their own blizzard of jargon: Lean. Agile. Design thinking. Human centered design.

It can be tempting to dismiss these terms as the trendy buzzwords du jour -- especially when you’re a career public servant with ample experience in management theory. But underneath the specific terminology, there are real breakthrough concepts that facilitate more effective problem-solving. Each of these approaches has some common, evergreen principles, including:

* **Define the problem** by using problem definition frameworks (root cause analysis, systems mapping, backcasting, etc). To solve the right problem, you need to ask the right question.
* **Source ideas** from unexpected places; good ideas can come from anywhere.
* **Identify your customers** (stakeholders), and *talk to them* as part of your planning process
* **Iterate early and often**; start small with pilots before investing significant resources in expensive and time-consuming development phases, and incorporate early feedback into your work
* **Gather evidence** to support your decision-making process, and scale only what works

[Read more](https://www.startupgrind.com/blog/cult-of-the-feedback-loop-lean-startup-vs-six-sigma-vs-everything-else/) on how to cut through overlapping management methodologies to focus on the key takeaways.

# Benefit of Government Innovation

*"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."* [[Source: October 2015 Strategy for American Innovation](https://www.whitehouse.gov/sites/default/files/strategy_for_american_innovation_october_2015.pdf)]

Innovation is an empty word unless the novelty is responsive to the lived experience of customer, constituent, and/or citizen. In the business world, innovation might increase efficiency, customer satisfaction, or both. In government, innovation can allow public servants to effectively use tax dollars to achieve national priorities, improve the provision of public services, or both. Both of these ways of talking about the purpose of innovation—what defines “better” and worse outcomes, against which the success of an innovation is judged—are really about ensuring that both business and government institutions serve people.

In the private sector the “market test” provides one direct indicator of the value of an innovation. If an innovation doesn’t work for customers, they don’t buy it. In the public sector, such direct market tests often do not exist. As a consequence, innovators in the public sector are more focused than their private sector counterparts on documenting impact in order to justify increasing scale, using data and evidence in place of demonstrated market validation.

Additionally, work in the public sector also involves responsibilities, and associated constraints, that are inherently unique. These responsibilities and constraints lead Federal institutions to evolve both written rules and unwritten cultures of practice that differ substantially—and often for good reason—from those that operate in the business world. In many contexts within the public sector, failure of service delivery is simply not an option. As a consequence, increasing awareness, adoption, and adaptation of innovation within government constitutes a distinct and particular challenge. It is a challenge that requires approaches potentially inspired by—but never wholly guided by—experience in the private sector.

## Benefits of improving innovation uptake across government

Creating cultures of learning and discovery leads to direct and indirect benefits. The direct impacts relate to the improved provision of government services and ability to accomplish government mission. As technology evolves, the behavior of citizens evolves and adapts too. However the indirect benefits of improving innovation uptake are nearly as significant as the direct ones.

For starters, a systematic updating of the functions of the government enabled by practices of innovation may help to reverse the public’s decline in confidence in government. According to [Pew](http://www.people-press.org/2015/11/23/1-trust-in-government-1958-2015/), American’s trust in government has plummeted over the past 50 years, from a high of nearly 80% in the mid 1960s to a low of under 30% in 2015. Fairly or unfairly, a widespread public perception exists that “government,” writ large, is sluggish and inefficient.

This negative perception has an impact on the capacity of the federal government to recruit new talent. As the Wall Street Journal recently reported, about 45 percent of the federal workforce was more than 50 years old in 2013. By September 2016, nearly a quarter of all federal employees will be eligible to retire, according to the Office of Personnel Management, the government's human-resources department. Overall employment at the federal, state and local level has fallen, shedding 928,000 employees between 2009 and 2013, according to the Bureau of Labor Statistics.” The [Partnership for Public Service](https://ourpublicservice.org/issues/inspire-and-hire/index.php)  has similarly noted that “individuals younger than 30 years of age make up 23 percent of the U.S. workforce, but account for only 7 percent of permanent, full-time federal employees.” A similar gap exists with regard to the challenges faced by the government in recruiting workers with digital skills.

The most immediate way that those within government can reverse such negative perceptions and mitigate their adverse impacts is simple to make sure that government works better and better—everywhere, and all the time.

That is the exact goal of the deployment of innovation methodologies throughout government.

# Government Challenges to Innovation (V8)

Innovation in the public sector faces four underlying challenges:

1. There is no mechanism inherent to public administration to (a) introduce novel solutions to public challenges, (b) identify which among the solutions is most effectives, and (c) increasing the resource allocation to successful solutions. (In the private sector the analogous mechanism is entrepreneurship and market validation.)
   * Federal organizations that are designed primarily for accountability lack flexibility to quickly accommodate new approaches
   * No “knowledge management” function within the government
   * Average tenure of political appointees is X years [challenge for institutionalizing]
2. Work in the public sector selects for individuals who are relatively risk averse. This is both because public sector employment contracts are generally more secure than private sector employment contracts, and also because the most risk-averse individuals are those least likely to leave public service. Furthermore, incentive structures within the public sector tend to penalize failure, while inadequately rewarding experimentation. These factors exacerbate the challenge of scaling innovation.
   * Risk-averse culture, lack of incentives
   * No well-developed mechanisms for internal communication and marketing to federal employees
   * Lack of federal expertise in areas such as change management
   * Archana Vemulapalli, Chief Technology Officer, DC (Georgetown U report launch event 10/6/16): “Have to avoid creating a cool kids club. Demotivates the majority of the organization that can really make change happen.”
3. The pace of technological change not only continues to accelerate, but also continues to outpace the rate at which the federal government can either up-skill the core public sector workforce in new technologies or, alternately, recruit new employees with up-to-date technical skills.
   * Modest levels of investment in training, professional development, experiential learning
   * Absence of communities of practice to build/sustain resources in some areas
   * Innovation, as a process, is sometimes treated as peripheral to core agency functions

Innovation is an over-used word for which there is, regrettably, no good substitute. Many among the most experienced and committed civil servants will be predisposed to suspicion about any agency-wide effort to support innovation, if only because their prior experience has been that many changes to processes within government that are termed “innovations” by leadership are either not (from the ground view) supported by evidence as improvements over the status quo, or are so routine that they don’t really merit the designation. The views of such skeptics are well-informed and likely valid. They will only be persuaded to by evidence that persuasively differentiate between real value creation and hype.

1. External Federal government stakeholders are more likely to be invested in the status quo as they are to be supportive of innovation. This is natural because they have adapted to government’s default ways of doing business. Innovators must work to broaden the scope of inquiry so that citizens who are the most likely potential beneficiaries of innovation are included in discussions along with external stakeholders.

# Success Stories

Visit the “Innovation Stories” section of this site to see a series of People who are innovating in the government and Places where innovation is occurring in Departments and agencies across the government.

Innovative People include Chief Innovation Officers from agencies like the Department of Transportation, the U.S. Agency for International Development, and the Department of Energy serving as catalysts for change within their organizations.

Innovative Places span everything from innovative programs (i.e. iCorps and the Corporation for National and Community Service Social Innovation Fund), to places using special hiring authority to kickstart innovation, and finally to well-established Innovation Labs like the Health and Human Services IDEA Lab and the Defense Advanced Research Projects Agency (DARPA).

# Relevant Policies

* [The American Recovery and Reinvestment Act](https://www.whitehouse.gov/recovery/innovations/intro), February 2009
* “[A Strategy for American Innovation: Driving Towards Sustainable Growth and Quality Jobs](https://www.whitehouse.gov/sites/default/files/microsites/ostp/innovation-whitepaper.pdf)”, Office of the President of the United States, August 2009.
* [Memo](https://www.whitehouse.gov/sites/default/files/microsites/ostp/openinnovation_memo0611_finalv4.pdf) from former U.S. Chief Technology Officer Aneesh Chopra in June of 2011 on “Winning the Future through Open Innovation” from Office of Science and Technology Policy
* [Memo](https://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-08_1.pdf) from former U.S. Chief Technology Officer, Aneesh Chopra with Cass Sunstein and Miriam Siparo outlining the “Principles for Federal Engagement in Standards Activities to Address National Priorities” in January of 2012.
* [Memo](https://www.whitehouse.gov/sites/default/files/microsites/ostp/openinnovatortoolkit_nstcmemo.pdf) from former U.S. Chief Technology Officer, Aneesh Chopra in February of 2012 outlining the “Open Innovator’s Toolkit”
* “[A Strategy for American Innovation](https://www.whitehouse.gov/sites/default/files/strategy_for_american_innovation_october_2015.pdf)”, National Economic Council and Office of Science and Technology Policy, October 2015.

# Additional Resources

* [*Innovative State*](http://www.innovativestate.com/)*: How New Technologies Can Transform Government*, Aneesh Chopra, 2014. Book from former U.S. Chief Technology Officer on bringing innovation and technology into government.
* Supporting [talk](http://www.cfr.org/technology-and-science/fostering-government-open-innovation/p36505) with Aneesh Chopra summarizes the focus of the book.
* “[The Architecture of Innovation: Institutionalizing Innovation in Federal Policymaking](https://mccourt.georgetown.edu/sites/mspp/files/documents/the_architecture_of_innovation_mccourt_beeck_center_georgetown_university.pdf)”, Beeck Center for Social Impact and Innovation and the McCourt School of Public Policy at Georgetown University. Report from
* “The Public Innovator’s Playbook: Nurturing bold ideas in government”, by William Eggers and Shalabh Kumar Singh of Deloitte Research, 2009.
* “[Characteristics of Innovation and Innovation Adoption in Public Organizations: Assessing the Role of Managers](https://drive.google.com/file/d/0B-sJFwk5kC3UU1loQ25yRllRU1E/view)”, by Fairborz Damanpour and Marguerite Scheneider, Oxford Journal of Public Administration and Research Theory, Vol. 19, No. 3, July 2009, pp. 495-522. Journal article discussing the role of leadership to encourage adoption of innovation practices in public institutions.
* “[Data and Analytics Innovation: Emerging Opportunities and Challenges”,](http://www.gao.gov/assets/680/679903.pdf) US Government Accountability Office, September 2016. This report highlights implications of new data technologies that are supporting innovation processes and the potential for economic opportunities, societal benefits and other related public sector domains.
* [Acquisition Gateway](https://hallways.cap.gsa.gov/login-information?url=https%253A%252F%252Fhallways.cap.gsa.gov%252Fapp%252F%2523%252Fgateway%252Fhuman-capital): this is a resource for federal employees for procurement to pursue and acquire human resource services, specialized educational services, and other training.
* “[How Change Happens](http://www.slideshare.net/edsonm/how-change-happens)”: a slide deck from Michael Edson on how change processes work, and what can be done to accelerate change within institutions.
* “[4 Significant Ways to Improve Your Ability to Innovate](https://www.thoughtworks.com/insights/blog/4-significant-ways-improve-your-ability-innovate)” from Joanne Molesky, Principal Associate at ThoughtWorks and Co-author of *Lean Enterprise.*
* “[Innovation at DARPA](http://www.darpa.mil/attachments/DARPA_Innovation_2016.pdf)”, DARPA, July 2016. This report outlines the history of innovation at DARPA and discusses processes and practices within the institution to create an innovative environment.

## Multimedia content

* [Gov Innovator Podcast](http://govinnovator.com/): Andy Feldman, a Visiting Fellow at the Brookings Institution and former Special Advisor for Evidence-Based Policy within the Office of the Deputy Secretary hosts conversations in podcasts on useful practices and insights from public sector innovators and experts. Some related, suggested conversations include:
* “[Implementing a department-wide innovation strategy](http://govinnovator.com/bryan_sivak/)” with Bryan Sivak, former Chief Innovation Office of the U.S. Department of Health and Human Services
* “[Learning from innovative businesses about creating a culture of experimentation in government](http://govinnovator.com/jim-manzi/)” with Jim Manzi, author of *Uncontrolled*
* “[Learning from the Obama campaign about creating a culture of experimentation in government](http://govinnovator.com/amelia-showalter/)”, a conversation with Amelia Showalter, former Director of Digital Analytics with Obama’s re-election campaign.
* [Stanford’s e-corner](http://ecorner.stanford.edu/) contains several conversations, videos and podcasts with leading innovators and entrepreneurs. Some select, related content includes:
  + “[Make Government Work Better for All](http://ecorner.stanford.edu/podcasts/3426/Make-Government-Work-Better-for-All)” with Jenn Pahlka, founder and executive director of Code for America and former U.S. Deputy Chief Technology Officer, discusses how government can harness technology and design principles.
  + “[From Inspiration to Implementation](http://ecorner.stanford.edu/videos/3386/From-Inspiration-to-Implementation-Entire-Talk)” with Tina Seeling, Professor of Practice at Stanford’s School of Engineering introduces the Inventure Cycle and discusses the attitudes and actions needed to foster innovation.
* “[Innovate for America](http://ecorner.stanford.edu/videos/2756/Innovate-for-America-Entire-Talk)” with Aneesh Chopra, former US Chief Technology Officer, describes the potential of technology and innovation to unlock national economic growth and prosperity in the United States.
* Steve Blank’s [repository of resources](https://steveblank.com/slides/) related to innovation and entrepreneurship, specific to I-Corps and Lean StartUp methods. Steve discusses work with the government and implementation strategies for innovation tools at the National Governors Conference in 2014: [Part 1](https://www.youtube.com/watch?v=XAN1pNO10KE&feature=youtu.be) and [Part 2](https://www.youtube.com/watch?v=8TYKnI7zMI4&feature=youtu.be).