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# Enabling Customer-Driven Innovation in the Federal Government

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*Driving the transformation of the federal enterprise through innovation is central not just to improving the lives of Americans and boosting productivity, but also to restoring faith in government.*

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Some might call “innovation in the federal government enterprise” an oxymoron, given the substantial constraints on innovation facing most federal managers, including procurement rules, personnel rigidities, and budgeting restrictions. To be sure, the federal government has played a key role in supporting innovation in the commercial sector throughout U.S. history, but that is different than ensuring that the federal enterprise itself is innovative. At that task, the federal enterprise has largely failed. This matters because the only way any organization, public or private, can succeed in the long-term is to be able to regularly and consistently transform itself through innovation, including developing new products, processes, services, and business models.

When a private sector firm like Sears fails to transform itself through innovation, its relative quality declines, it loses market share, its profits shrink, and it often goes out of business.<sup>1</sup> But when the federal government fails to innovate, it doesn’t go out of business. Rather, as the quality of its products and services declines and its costs increase, it just gets farther and farther from its users’ expectations. The relative quality of its products and services declines, its costs increase, and agencies fail to meet customers’ expectations. It is the equivalent of forcing consumers to live in a world without Walmart, Amazon, or any other innovative retailer and having to shop at Sears’ stores, with limited choice and convenience. In that world, people would grumble and complain, while losing faith in Sears as an institution. Today, that is how many Americans feel about the federal enterprise.

This is why driving the transformation of the federal enterprise through innovation is so central not just to improving the lives of Americans and boosting productivity, but also to restoring faith in government. The Trump administration, under the leadership of Jared Kushner, has announced the creation of a White House Office of American Innovation

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designed to help the federal government “run like a great American company.” We applaud this goal and offer this report as a guide for how the federal enterprise can be transformed by innovation.

Over the past decade, a new science of innovation has emerged in the private sector, as more and more CEOs and corporate boards realize that if they do not transform themselves through innovation that their nimbler competitors will take market share. At the same time, a suite of powerful and affordable technology tools to enable organizational transformation have emerged, mostly in the information-technology area.

To be sure, the private sector is not government, and assuming that simplistic lessons can be drawn from industry and blithely applied to the federal government is naïve. At the same time, prevailing technology systems determine not just private-sector structure and performance but public-sector, too. Best practices and technology tools that drive innovation in the private sector can also be adopted by the federal government.

Improving federal enterprise performance is a perennial topic, from Eisenhower’s Hoover Commission, to Reagan’s Grace Commission, to Clinton’s Reinventing Government, to Bush’s E-Gov Initiatives, to Obama’s innovation efforts. But one major thing is different today. The challenge from the postwar period to the 1980s was principally for the federal enterprise to copy management structures and innovations in large Fortune 500 companies, something that was possible because the latter were bureaucratic structures themselves. Today, the challenge for all large organizations, public and private, is to become more flexible and to use technology to transform themselves. This is hard in big corporations; it is much harder in the federal enterprise. But that does not mean the task is insurmountable. It only means that much more significant change is needed: more than a few innovation pilot programs. Rather, the challenge now is to transform the entire federal enterprise through innovation. This report first discusses the nature of innovation and why it is important in government. It then discusses the unique challenges facing the federal enterprise. Finally, it lays out actionable recommendations the federal government should adopt to transform itself through innovation.

## **GOVERNMENT INNOVATION IS MORE THAN TECH**

Innovation is a term so broad that it is often without meaning. For this report, we are talking about a particular kind of innovation in a particular place. We are not talking about government support for technological innovation, through agencies like DARPA and the National Science Foundation. Nor are we talking about innovation in society that government policy has spurred.<sup>2</sup> For example, a report from the Beeck Center at Georgetown University on innovation in the federal government referenced the establishment of the National Park Service, the War on Poverty and Voting Rights Act, the Clean Air Act, and the National Weather Enterprise as innovations. Others talk about the federal government engaging more in so-called “Grand Challenges,” such as clean energy or autonomous cars. As hard as these problems are, they sometimes seem easier than making front-office federal government services innovate at scale.

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*Customer driven: The federal government implements processes whereby customer demands for better service are translated into action.*

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Nor is this a report on federal government use of information technologies (IT), an area that the Information Technology and Innovation Foundation (ITIF) has written on extensively.<sup>3</sup> As important as IT is, innovation is more than just using IT. In fact, one problem with the use of IT in the federal government is that it has not consistently been used to drive innovation. To take an example from the private sector, IT could be used to help make taxis more efficient, or it could be used as Uber used it, to completely innovate the car-for-hire business model.

Rather, this report focuses on innovation in the federal enterprise itself, and in particular processes, services, and business-model innovations. By the federal enterprise, we mean the actual back-office and front-office operations of federal departments and agencies. Process innovations are changes in how work is done in federal agencies. An example would be a new way for a federal agency to process payroll. Service innovations are changes in how direct customer-facing services are accomplished. An example would be a new online method for people to obtain passports from the State Department instead of trying to schedule an appointment by telephone with the U.S. Postal Service and then having to wait 4 to 6 weeks just to get an appointment.<sup>4</sup> Business-model innovations involve how the federal government structures services. An example would be the IRS Free File tax program, whereby third-party online tax preparation firms provide free tax-preparation software to a subset of millions of taxpayers.

To be sure, not all federal agencies are the same in function. Deloitte has come up with a useful typology, dividing federal agencies into three categories: retail—agencies that interact regularly with business or consumers to provide services, such as the U.S. Postal Service (USPS), Veterans Affairs, and the Social Security Administration; mission-oriented—agencies such as Health and Human Services (HHS) and the National Institute of Standards and Technology (NIST); and regulatory—agencies such as the Securities and Exchange Commission (SEC) and the Environmental Protection Agency (EPA).<sup>5</sup> But even agencies that are mission-oriented or regulatory have inward- or outward-facing “retail” functions in need of innovation, such as the SEC’s EDGAR database, which provides investors and businesses with corporate information.<sup>6</sup>

This is not to say that innovation related to an agency’s mission is not also important, for example, the Department of Transportation (DOT) supporting smart cities and the Department of Agriculture (USDA) enabling agricultural innovation. But the focus of this report is on innovation to make federal government operations work better: less delay, easier to use, higher quality, and more productive (less labor per unit of output).

Finally, this report is about customer-driven innovation. To the extent government thinks about innovation, it is often framed as customer centric. It may sound like a semantic difference, but this is not the same thing as customer driven. Customer centric is a process whereby federal managers try to structure services in a way that meets the needs of citizens *as they see them*. Customer driven would be the federal government implementing processes whereby customer demands for better service are translated into action. Most private-sector

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innovation is customer driven in the sense that a failure by a firm to meet customer demands means loss of sales. In the federal government that failure means a loss of patience.

## **WHY GOVERNMENT INNOVATION MATTERS**

Americans experience innovation every day: whether it's the ability to order a "taxi" on their smartphone, easily order products online and have them delivered the next day, or track their steps. And they expect continued innovation.

But when it comes to the federal government, it's as if we are living in a 20th-century analogue world, wrapped in bureaucracy, paper, and delay. Productivity growth, though not officially measured for government activities, is likely anemic.<sup>7</sup> Service quality is often frustratingly slow and often not fully responsive.<sup>8</sup> Technology quality lags the private sector.<sup>9</sup>

The failure of the federal enterprise to be an innovation-based enterprise matters for more than the fact that it leads to citizen frustration. The health of the American democracy depends on the legitimacy of government, and that, in part, depends on the effective functioning of government and on minimizing the gap between private-sector innovation best practice and government practice. With trust in the federal government at an all-time low, this bodes ill for America's future.<sup>10</sup>

Moreover, when parts of the economy are dramatically less innovative than other parts, that creates serious imbalances. Recently deceased economist William Baumol wrote about what became known as Baumol's disease: the inability of certain sectors to innovate to raise their productivity, with the result that the cost and price of their goods or services gradually increases and access becomes limited. We see this today with sectors such as health care and higher education, but also with government, where the costs of the government enterprise rise faster than inflation.

To date, government innovation has been too often ignored, with one side of the political aisle pushing for smaller government and another fighting against cuts. Whatever one believes about the appropriate size and role of the federal government, all sides of the aisle should be able to agree that government should be as productive and effective as possible. And we should all be able to agree that for the foreseeable future the federal government will be performing some functions, and that to the extent that it fails to innovate, users of federal services will suffer from higher costs, less functionality, and lower quality (including delay).

Finally, within government, innovation is all too often a side issue, which gets attention once in a while as a fad or symbolic issue, but is not seen as essential to accomplishing the mission of government. Emblematic of this is the fact that the report on the Office of Personnel Management website "Promoting Innovation in Government" has a broken link and appears to be no longer available, and under reference materials for performance management, innovation is nowhere to be seen.<sup>11</sup>

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## THE EMERGING DISCIPLINE OF INNOVATION IN THE PRIVATE SECTOR

Innovation in any organization, large or small, is hard. The status quo is always more comfortable, and innovation requires hard work and courage and the willingness to disrupt comfortable routines. But innovation is even harder in large organizations that have established many routines to enable a large and complex institution to function. Moreover, large organizations have many workers, particularly in middle management, whose careers and very identity depend on maintaining, not changing, the status quo. As Clayton Christensen explains in *The Innovator's Dilemma*, middle managers in many organizations, who see the perpetuation of the status quo as safer than introducing the risk of innovations that might fail or cannibalize existing product lines or profit streams, often make perfectly (individually) rational choices to stifle innovation in their organizations.<sup>12</sup>

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Moreover, in virtually all companies, innovation has to fight against a ubiquitous barrier: the status quo. For too many innovative activities—whether introduced by “intrapreneurs” in existing organizations or by “entrepreneurs” from the outside—the response is often to ignore the need for innovation, assuming that we’ve always done it that way and we always will. “More of the same is what we need, not something different” is the all-too-common refrain. Thus, as Machiavelli noted in *The Prince*, “There is nothing more difficult to execute, nor more dubious of success, nor more dangerous to administer than to introduce a new system of things, for he who introduces it has all those who profit from the old system as his enemies, and he has only lukewarm allies in those who might profit from the new system.” Noted political scientist Mancur Olsen elaborated on this collective action challenge to innovation, observing that while the benefits of innovation are widely dispersed, the costs of change are usually imposed on a small minority who are incentivized to be engaged in opposition.<sup>13</sup>

Notwithstanding these challenges, many large companies have explicitly recognized the need to bake innovation into their operations, in part by adopting the emerging discipline of innovation. One of the major myths about innovation is that it is unstructured, chaotic, and idiosyncratic, with innovators just waiting for the magic light bulb of inspiration to go off. In reality, leading innovative companies, big and small, organize their innovation efforts. For example, Procter & Gamble (P&G) has formally organized innovation processes, for both innovation that will come from interaction with the outside world and innovation from internal operations. For internal organization, the company holds R&D directors accountable, with measurable goals. Many of the workers involved in innovation study design thinking.

Companies can use a variety of innovation models. One is design thinking, which is the basic methodology for creating new products that industrial designers study in school (and which has been popularized by the consulting firm IDEO). Design thinking is a process defined by four elements: 1) define the problem, 2) create and consider a wide variety of options, 3) refine selected directions, and 4) identify the best solution and execute.<sup>14</sup>

Design thinking is a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business (or

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government agency) strategy can convert into customer value and market opportunity.<sup>15</sup> Successful design thinking includes focusing intensely on customers/users; identifying new alternatives; working within tight constraints (whether time, budget, or channels); drawing from a wide range of influences and disciplines (e.g., psychology, anthropology, architecture, art); and invoking emotion.

Another is Doblin/Monitor's Ten Types of Innovation Model and Innovation Effectiveness framework. As Larry Keely of Doblin has articulated, there are at least 10 types of innovation that firms need to focus on, including not just product performance, but also business model, service, brand, and customer experience.<sup>16</sup> Still another is Osterwalder and Pigneur's Business Model & Value Model Proposition Canvas.<sup>17</sup> This methodology is focused on helping organizations generate, test, and implement value propositions that customers will respond to.

Still another is the discipline of lean start-ups. One key aspect of the discipline of innovation in all of these and other models is role of design and the centrality of customer experience in driving organizational decisions. Lean start-ups use agile-development methodologies that dramatically reduce waste and unlock creativity in product development, which lowers development costs, accelerates time to market, and often results in higher-quality products.<sup>18</sup> In particular, lean start-ups seek to develop, rapidly deploy and beta test minimum viable products (MVPs), and get quick customer feedback, so they can rapidly iterate and improve upon the base design.<sup>19</sup> In short, the lean start-up mentality favors experimentation over elaborate planning, customer feedback over intuition, and iterative design over traditional "big design up front" development.<sup>20</sup>

Finally, more businesses are focusing on innovation for both supply and demand reasons. On the demand side, many companies face growing competition, particularly from upstart companies entering their markets with disruptive technologies and new business models. Just ask the former managers of Blockbuster video, who ignored the threat from online video delivery. But on the supply side, IT is playing a key enabling role that supports the practice of innovation. For example, IT enables innovation intermediary search platforms such as NineSigma/Innocentive. IT enables managing internal knowledge networks and innovation project management (e.g., Ovo's Innovation Project and Portfolio Management Software). IT supports crowdsourcing and prediction markets (e.g., Crowdcaster/Spigit platform), as well as concentrating risk capital (e.g., Kickstarter).

None of this is to say that innovation is easy, even when companies employ the most cutting-edge practices. Indeed, overcoming the sheer difficulty inherent in conceiving, developing, prototyping, and implementing new products and services, ideas, processes, and business or organizational models is a daunting challenge. Research by Doblin's Keeley finds that, in the corporate world, only 4 percent of innovation initiatives meet their internally defined success criteria. A 2004 *Harvard Business Review* study found that only 10 percent of new products succeed. Other research has found that only 8 percent of

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innovation projects exceed their expected return on investment. Economist Edwin Mansfield found that only 12 percent of R&D projects exceed their capital cost.<sup>21</sup>

Yet, despite these odds, organizations must continue to strive to innovate. Research by Larry Keeley and Carl Franklin suggests that firms that do not replace at least 10 percent of their revenue stream annually are likely to be out of business within five years.<sup>22</sup> As management guru Tom Peters noted, the only choice for companies is to “innovate or die,” as they must constantly change, innovate, and radically adapt in order to stay competitive. But the irony for organizations is that while breakthrough innovations are harder to conceive, because they originate from discovery-oriented activities and are often found at the margins of the organizations’ core activity, they are also easier to kill, both because they may run counter to the organization’s current business model and because the return on investment the innovation offers, while significant, is so uncertain and often too far in the future for managers with an eye on this quarter’s return to embrace.

### **THE UNIQUE CHALLENGES OF INNOVATION IN THE FEDERAL ENTERPRISE**

If the innovation challenge is daunting in large businesses, it’s even greater in the federal enterprise, for most federal agencies suffer from all the limitations large businesses suffer from (bureaucracy, middle-manager resistance, etc.) plus a host of other challenges unique to government.

Many large businesses are still relatively young, having been established in the last 30 years or so. But most federal agencies are many decades, if not centuries, old (e.g., State, Treasury). It is often easier for younger organizations to innovate, because their “DNA” and organizational practices were established closer to the current best practices of organizational innovation.

Perhaps the major challenge in transforming the federal enterprise into an innovation-based enterprise is that there is no one who “owns” the challenge. In corporations that lead in innovation, someone is tasked with making the organization attend to innovation, and that person normally reports to the CEO. Moreover, the CEO usually understands the centrality of enterprise innovation to the firm’s long-term sustainability. For the employees responsible for innovation, if they underperform, their jobs, and even careers, are at risk.

In contrast, there is no “corporate” interest in improving the operation of the federal government. Presidents don’t have the time or usually the inclination to focus on innovation. And they face little electoral consequence from not innovating. If voters have to fax in an employment form to the Office of Personnel Management (OPM) instead of emailing it, this issue likely won’t be the key one that swings their votes. In contrast, mayors and even sometimes governors are re-elected or not largely on the basis of the quality of their government’s service delivery. In short, they face far more electoral accountability for innovating. This is one reason why many states and cities have established chief innovation officers.<sup>23</sup> And within the federal enterprise issues of management broadly, and innovation within management, are relegated to the second tier, with agencies generally having leeway to call their own shots.

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At the same time, political appointees running agencies all too often ignore the management agenda—where any innovation agenda should live—in favour of a more front-facing political agenda. Why do the hard work of improving the internal operations of an agency when the average tenure of political appointees is just two-and-a-half years and making any progress in the face of stifling civil service and procurement rules makes it so difficult?<sup>24</sup> In short, no one is on the bridge steering the federal “ship” toward innovation.

On top of that, senior government leaders usually lack interest in innovating, in part because of the limited downside from not innovating (little or no competition) and the limited upside from innovation (no clear model for revenue increase). In other words, if a federal agency doesn’t innovate, it’s not as if another organization will come in and take its market away. Congress doesn’t really hold agencies accountable for not innovating, although it is quick to take agency leaders to task for trying to innovate and failing. Likewise, if an agency does innovate in ways that expand the demand for its services, it often has no way to meet that demand, since Congress controls the purse strings. Conversely, if an agency innovates in a way that cuts costs, it normally cannot keep any of the savings for its own budget; the savings flow back to the Treasury. So why not just maintain the status quo?

Not only are there limited upsides for innovating, significant downsides exist. Try something new that fails and the one certainty is that the agency and key players in it will be punished, whether it was a good risk to take and the plan was executed well. Agencies can expect an inspector general (IG) or Governmental Accountability Office (GAO) report that calls them to task, perhaps a congressional hearing, and likely some critical coverage in the media. It is this “gotcha” culture that is perhaps the most corrosive for federal innovation. The fact that *healthcare.gov* has become a verb—as in we don’t want to get “*healthcare.gov’d*” (i.e., suffer the same fate that the folks involved in the poorly conceived and implemented website failure suffered)—says volumes about the current environment for innovation in the federal government.

Not only do senior civil servants and managers have limited incentives to innovative, line employees are in an even worse position. In contrast to many of the leading-edge private-sector companies that have empowered frontline workers to contribute to innovation, the federal government still by and large embraces a hierarchical management culture. where frontline workers’ job is to perform, not innovate. This is why, according to an Accenture survey, only 30 percent of federal employees surveyed rated their agency’s support for innovation as excellent (8 percent) or good (22 percent). More than half (56 percent) say a lack of institutional support hinders innovation in their organization.<sup>25</sup> A survey by the Partnership for Public Service and the Hay Group found that just 39 percent of federal employees felt that creativity and innovation were rewarded.<sup>26</sup> And according to a recent survey by Eagle Hill Consulting, 72 percent of federal employees say their agencies rarely or never seek their ideas for improving their agency, while half say that they don’t know how to submit ideas to their agencies.<sup>27</sup>

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In addition, it does not appear that many federal managers have the needed skills and knowledge of innovation tools and mechanisms. While many people conceive of innovation as something that just happens—a metaphorical light bulb goes off in a eureka moment, in fact, as discussed above, skills can be acquired to support innovation in an organization. These skills are not adequately taught in the federal enterprise.

On top of these barriers are an array of internal management practices, many imposed by Congress, that inhibit change and reward the status quo and bureaucratic consistency (everything and everyone is treated exactly alike according to rigid rules). These rules include a personnel-management system designed for the William McKinley era, capital budgeting that makes it difficult to treat operating expenditures and capital expenditures differently, and procurement restrictions that make it hard to partner with private-sector companies who could assist with innovation. This combination of rigid rules and an organizational culture that sees any deviation as a violation of norms means that the innovation environment is much less fertile than it might be in a small, U.S. startup, for example.

In addition, for an agency that truly wants to innovate, most have limited capital for internal “venture” investing, and many lack the ability to quickly prototype/refine/fail/try again, because it can be almost impossible to get sign-off on new projects quickly.

Another challenge for innovation in government is that to the extent senior managers are attracted to innovation it is often to new, pilot-scale services that are interesting and often quite useful, but usually do little to move the needle on large-scale, core processes. These pilots, whether developed by innovation fellows, skunk works, or bottom-up experiments, often are not getting at the real agency challenges. It is much harder to innovate at the core, with large-scale services, especially to improve functionality, ease of use, and timeliness of service. Innovation will continue to be a sideshow and fail to transform the federal government if it is only focused on the “cool” rather than the core. Related to this is that many consider only “first-to-market” innovations as real innovations. If an agency copies an innovation from another agency (or the private sector) and applies it in a difficult situation to make real progress, that should be considered every much an innovation as the agency that did it first.

Finally, innovation involves at least two key components, prototyping and wide-scale implementation. The former involves generating innovative ideas and developing a small number in pilot form. The latter involves taking successful prototypes to enterprise scale. Both are challenges for the federal government. The Obama administration made some progress on the former, setting up prototype efforts through entities such as the HHS IDEA Lab’s Ignite Accelerator and the White House Innovation Fellows program. At the same time, some federal agencies have begun to experiment with new approaches such as open innovation, human-centered design, and agile approaches to the development of digital services. But even with these efforts, prototyping was still episodic rather than systematic.

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Then there is the handoff to scaling. Scalable implementation remains the largest challenge, with innovative ideas acting like electrons floating outside the massive inert nucleus of the core agency functions. This is one of the main challenges now facing the federal government. While the Bush and Obama administrations put in place a number of creative initiatives to generate innovative pilots, few of these scaled to really move the needle. These were mostly “push” efforts (develop an innovation and push its use), rather than “pull” efforts, where agency heads and lines of business leaders identified challenges and sought innovations to solve them.

Likewise, many of the innovation efforts focus on developing pilot programs and interesting experiments, including guidebooks and tips for innovating. But what is lacking are stronger and more comprehensive guidebooks for scaling. This is because there is no formal structure to hand off prototypes for scaling, to create contracts with industry to scale, and no real buy in to change the organization’s “DNA.” The real test of success for whether the federal enterprise becomes more innovative is if large-scale, core systems are transformed, not just tweaked, through innovation.

Finally, this points to another challenge for innovation in the federal enterprise: the focus on convincing and coaxing recalcitrant managers and employees into accepting innovations. Most reports and documents about federal innovation speak about the importance of making sure innovations reflect agency-specific contexts and how champions are needed to convince employees of the merits of the innovative solutions, including using salesmanship to persuade people. Sure, this kind of cheerleading and persuasion is needed in any context, government or business, but in innovative private-sector companies, top leadership simply mandates that the business adopt a particular innovative direction, and anyone not willing or able to get on board with that direction is let go. While the latter is virtually impossible in the federal enterprise, the former is not if leadership takes the time and effort to focus on enterprise innovation and require that the agency transform itself through innovation.

## **DRIVING INNOVATION IN THE U.S. GOVERNMENT**

Considering the seemingly endless and insurmountable barriers to innovation in the federal enterprise, the appropriate response should not be resigned despair—to live with a “Sears-like” enterprise and make the best of it, but rather a determined will to reform. But how? What model? What path?

One common approach is to default to private-sector models or leaders to solve the problem. After all, the thinking goes, some businesses have cracked the innovation code, so let’s bring in their leaders to crack the government innovation code. To be sure, private-sector insight and experience can lend itself to the solution, but federal officials should be under no illusion that these lessons can be easily transferred and implemented to the federal government. Large national governments are unique and require their own analysis, framing, and implementation to crack the innovation code.

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Another widely touted approach focuses on personnel: If only the federal government can improve the quality of managers through improving hiring, training, and bringing in outsiders (e.g., innovation fellows), then innovation will happen. Many reports, such as an undated, but “historical” OPM document, repeat the tried and true mantra that innovation only happens with support from the top.<sup>28</sup> The theory is that, if senior executive service (SES) managers and political appointees are better attuned to innovation, there will be more of it. To be sure, having top leaders better understand and care about the process of innovation and how to apply it to their work will help, but we believe that structural factors play a much more important role in limiting and enabling innovation. It is usually not the case that managers don’t innovate because they don’t know innovation is useful; they don’t innovate because there are few rewards and many barriers. More hortatory about the importance of managers embracing innovation is unlikely to change the status quo.

Toward that end, we lay out actionable recommendations in six key areas: institutional models; approach and culture; resources, tools, and best practices; metrics and incentives, financing; oversight and review; and procurement.

### **Institutional Models for Federal Innovation Management/Leadership**

Innovation will be easier if there are institutional mechanisms in place that make it more likely agencies will focus on it. There are a number of steps that can help.

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#### **Establish a Position of Chief Innovation Officer Within the White House**

The Bush administration established a position of federal chief information officer (CIO), whose job was to focus on the federal IT enterprise. The Obama administration added the position of the chief technology officer (CTO), whose job involved supporting technological innovation in the broader society and economy as well as innovation in the federal enterprise. But these are really two quite distinct roles and should be occupied by two different people. As such, the Trump administration should task the CTO with all matters of external innovation (i.e., how federal policies and programs can drive innovation outside the federal enterprise) and create a new chief innovation officer (CINO), whose responsibility would be to coordinate and drive innovation within the federal enterprise.

#### **Require Agencies to Incorporate an Innovation Component Into All Strategic Plans**

One reason why agencies devote so little attention to innovation is that it is generally not formally recognized as part of agency agendas or strategic plans. And this is in part because innovation is not explicitly incorporated in agency missions. As such, the Trump administration should require that each major agency explicitly include an innovation component in its strategic plan that includes among other measures, foresight/forecasting/scenario-planning activities.

To lead these efforts, each major agency should designate one person as responsible for innovation, in the mode of Harry Truman’s “the buck stops here.” In some agencies, this may take the form of designating a chief innovation officer (CINO), akin to what some states have done. This would be a role that would be aligned with but separate from any existing CTO role, as the CINO role would encompass more than technology, to include a

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broad remit for innovation, including business-model and operational innovation. In other agencies, the role of the CTO or the CIO may be broadened to encompass a stronger innovation responsibility. In still other agencies, the task of innovation may be formally assigned to the assistant secretary or undersecretary for management. The President's Management Agenda should be a tool for coordinating this work.

#### Establish Innovation "Skunk Works"

One key to successful private innovation has often been to create "skunk works," separate organizational entities not constrained by the dominant corporate mindset or rules. Pioneered by Lockheed in the 1950s, a number of major corporations now have similar entities. The idea behind skunk works is to create a dedicated space, less unencumbered by the day-to-day concerns of providing services or products, and also less unencumbered by the rules and routines governing companies. And many of these skunk works are not just focused on identifying and launching new ideas, but on killing old ones. For example, the National Security Agency (NSA) has an internal accelerator called "Incubation Cell" that views its mission as killing bad ideas because they will otherwise persist. A few agencies, such as the NSA, CIA, and HHS, have skunk works-like efforts. However, the Trump administration should establish a pilot program where four or five additional agencies establish skunk works focused on disruptive innovation within their agencies.

#### Expand the Innovation Fellows Program

The Obama administration established its Presidential Innovation Fellows program. The program pairs talented technologists and innovators with top civil servants to innovate around pressing problems.<sup>29</sup> The Trump administration should expand this program.

#### Create an Innovation Ideas Panel Within the Office of Management and Budget

The relationship between companies or entrepreneurs that might have solutions for the federal government and federal agencies is extremely formalized and bifurcated. There are some good reasons for this, principal among them to avoid insider dealing and unfair advantages to certain private-sector bidders. But that separation has gone too far. Companies and entrepreneurs often have valuable knowledge and insights about what the problems are that get in the way of agency innovation and what innovations can provide solutions. The White House should create a process by which companies and entrepreneurs can come in and present problems and/or solutions to a small panel of federal officials, who would then use this information to gain better insight into the key problems and the types of solutions that keep presenting themselves. This could act in a similar manner to President Trump's recently proposed infrastructure red tape council.

#### Congress Should Temporarily Exempt a Few Federal Agencies From Stifling Rules

The straightjacket of federal rules limits innovation. In the absence of comprehensive reform, one answer is for the House and Senate Government Reform Committees to pass legislation allowing several smaller federal agencies to be completely exempt from these rules, including civil service and procurement rules, for a period of three years. The agencies would be bound only by civil laws. After three years, the Government Accountability Office would do a soup-to-nuts evaluation of how it worked. Ideally,

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*Federal innovation efforts lack structure, and a mental model is missing in the federal government.*

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Congress should pick a few small agencies, such as the Federal Housing Finance Board or a federal lab. Or alternatively, agency heads could apply to be test cases, so that the flexibility of these rules is matched with agency leaders who want increased freedom. Given how onerous federal agency regulations are, there could be a long line of applicants for relief. The idea would be to free the agency from all of the hiring practices, acquisition rules, and other restrictions that make federal operations so hidebound. In other words, they could more easily fire employees who deserve to be fired, hire the right employees faster, and do other things in the most efficient and innovative ways. Based on the results of such a pilot program, Congress could decide to expand it or not.

Some experimentation in this area has already taken place. For example, in 1970, Congress passed the Postal Reorganization Act and exempted USPS from federal acquisition requirements to give it more flexibility in its procurement practices (although Congress has hamstrung the Postal Service in other ways). More recently, Congress initially exempted the Transportation Security Agency (TSA) from Federal Acquisition Regulation (FAR) requirements, in part so it could focus on its mission without getting bogged down by government contracting requirements. One of the major differences between FAR and the Acquisition Management System (AMS) used by TSA at the outset is that AMS allowed “managed competition.” As explained by Rick Gunderson, assistant administrator for acquisition at TSA at the time, “Whereas the FAR requires full and open competition, AMS is based on managed competition. This is consistent with how industry conducts its own purchasing and supply chain management. As a result, government resources are not spent on firms that have no chance of receiving an award, and industry maximizes the impact of their bid and proposal costs.”<sup>30</sup> Nevertheless, Congress took away this exemption in 2008, even as TSA agency leaders protested the change.

### **Federal Innovation Approach/Culture**

It is all too easy to get caught up in the buzz around innovation and seeing innovation as an end, rather than a means. The goal of federal enterprise innovation is not to make enterprises more innovative for the sake of innovation, but rather to better achieve their core missions. This gets to the first-order question for all agencies: clearly and narrowly defining their missions. Only then should the focus be on innovation toward the key goals of that mission. All too often government innovation efforts and teams look to innovate and how to use technology in new ways. That is starting from the wrong end. The right place to start is with the mission of the agency in question and how innovation, including technology, can improve mission performance (cost, quality, timeliness, etc.)

Once this is done, the next step is to organize the innovation effort. As noted above, leading private-sector innovators have organized innovation efforts. Not only is this almost utterly lacking in the federal government, but federal agencies are insulated from these new practices and disciplines and new ways of thinking. Federal innovation efforts lack structure, and a mental model is missing in the federal government. So, there is no common frame of reference across the agencies around innovation. The following recommendations address this need.

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### Inculcate Design Thinking and Innovation Practices Within Agencies

To remedy this, the discipline of innovation in the federal government needs to be developed, nurtured, and promulgated. For example, each agency should have senior staff who understand design-thinking needs and human-centered design. Without structure and process around innovation, it can't get off the ground systemically.

This approach needs to be available to a wide range of federal managers, not just at the SES level, but above at the political level, and below at the mid-level General Service (GS) levels. Toward that end, the Office of Management and Budget (OMB) should establish a Federal Innovation Academy that any government employee or federal contractor can enroll in. This should include MOOCs (massively open online courses) and micro-credentials for those who complete the training. OMB should work with the private sector and government innovators to develop Udacity-like online courses on the process of innovation in government. To supplement that, NIST should develop an innovation framework that outlines the generic steps CINOs should be taking within agencies.

### Identify 20 to 50 Core Processes to Be Transformed by Innovation

As noted above, the challenge of innovation in the federal enterprise is to innovate in the core, not just the edge. As such, the White House, in partnership with agencies, should identify the most important core processes where innovation can make a difference. Ideally, these would be ones where innovation would either lead to significant improvements in customer service and quality or reductions in cost (to both the government and users of government services). This is something many states have focused on, as well as the United Kingdom, whose chief performance officer used this approach to focus on the most-high-impact projects.<sup>31</sup>

### Create an Expectation for Innovation, Especially Trials, Tests and Pilot Programs

The White House and Congress should create an expectation that all federal agencies regularly report on the extent, type, and success of innovation efforts. The problem in all too many federal agencies is that change is frowned upon and resisted. We need agencies where *not* changing is frowned upon. Agencies should be regularly exploring and moving forward with experiments and course corrections, seeing which ones fail and discarding those, and which ones succeed and scaling those up. This means not only an expectation by OMB budget examiners and congressional oversight to expect reports on innovation activity as the norm, but as we discuss below, for the Inspector Generals (IGs) and GAO to “cut agencies slack” for these kinds of efforts, even if they are not perfect. At the same time, IGs should produce and maintain a real-time online inventory of all innovation activities, to enable better insight into their performance, determining where poor performance stems from poor conception and execution versus technical or business-model risk.

### Resources, Tools, and Best Practices in Federal Innovation

In addition to the institutional constraints around federal innovation, agencies need more resources and tools for innovation.

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*The emergence of powerful and scalable social-networking technologies could allow federal workers to easily engage in generating innovation ideas.*

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### OMB Should Document Innovation Success Stories

There is also a need for more documentation of successful innovation projects in the federal government. All too often, agencies reinvent the wheel, not aware of the challenges other agencies encountered and the solutions they implemented. OMB, which by statute is supposed to be concerned with both budget and management, should take the lead in establishing a case-study sharing system that details the top 10 or so innovations in the federal government each year and explains why they were successful. From this corpus, outside researchers could do more in-depth research to identify commonalities and lessons.

### Support the Creation of Innovation Tool Kits

Many government managers do not innovate because they believe that existing rules prohibit a particular action. Sometimes this is true. But often it is not. As such, one role for an agency such as GSA or OMB is to develop tool kits explaining the scope of what agencies can and cannot do. For example, in the Obama administration, the White House collected a list of the activities that they had seen work regarding innovation and came up with 25 innovation approaches that worked at agencies (e.g., getting around restrictive hiring processes, embracing open data). Likewise, GSA is developing its Better Government Toolkit to advance these objectives across the federal government. These efforts should be continued and built upon. Furthermore, few senior federal leaders have a “community of practice” that would allow them to work together on the modernization and transformation of government, and draw on the lessons from successful innovation in other agencies. OMB should work to establish such a community.

### Train Support Functions How to Say Yes to Innovation

Often, support functions in government, such as human resources, compliance, and accounting, take a reflex action to any attempts at innovation by saying “the rules don’t allow it.” OMB should organize ongoing training programs for these personnel, both in dedicated agencies (e.g., OPM) and within agencies to help them be enablers, not barriers to innovation.

### Establish a Bottom-Up Innovation Tool for Federal Employees

In any innovative organization, ideas for doing business in new ways come from all levels of the organization, including from frontline workers. But this is much less common in the federal government. The emergence of powerful and scalable social-networking technologies could allow federal workers to easily engage in generating innovation ideas. This is especially important given that 80 percent of federal workers are outside of the District of Columbia, and most are engaged with the customer and delivering the service. Thus, the OMB should develop a tool by which any employee in the federal government can propose innovation ideas in a structured format. Moreover, in reviewing these ideas, the focus should be, where possible, on what ideas can be implemented across government, rather than in just one agency. This could be akin to an internal challenge.gov.

Other nations have done this. For example, Singapore incentivizes public-sector employees to share their ideas through their Knowledge Management Experimentation Program (KMEP). KMEP gives technologically savvy bureaucrats a platform to share e-government

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proposals, with the best innovators given funding to pursue their concepts (and often prizes and promotions).<sup>32</sup> Denmark sponsors similar competitions. As discussed below, these bottom-up efforts need to be complemented with efforts to actually implement innovations at scale; otherwise these efforts only frustrate employees, as their creativity goes for naught. As such, agencies should have flexible personnel rules, among other things, to let employees with creative ideas actually have the time and support to implement them.

#### Establish Internal Cultures for Innovation

It is somewhat of a cliché, but it is true that most innovative companies design organizational rules to enable a culture of innovation: everything from dress codes to beanbag chairs. Whether these practices really spur innovation or just send a signal that innovation is valued is not clear. Regardless, strict requirements, for example, that federal employees must wear a suit or business attire, are likely to deter innovators, especially younger ones, from joining the government. OMB should require agencies to review these procedures and rules.

#### Enable and Encourage Federal Agencies to Talk to “Customers”

It has become a truism of private-sector innovation that companies need to regularly communicate with customers/users. Yet, not only is the federal government not used to doing this; in some cases, federal law makes it extremely difficult to do so. This means that often federal agencies are guessing what users actually value.

Toward that end, the Federal Agency Customer Experience Act of 2017 (S. 1088) sponsored by Senator Claire McCaskill (D-MO) would allow agencies to reach out to customers who affirmatively opt in with their consent not only to ask their views on the quality of government services, but to give them timely information about their service (e.g., the State Department emailing passport holders four months before their passport is due to expire).<sup>33</sup> Congress should pass this legislation, and agencies should take advantage of it, using the resultant data to regularly redesign services.

#### Metrics and Incentives for Innovation

Edward Deming, the quality management guru, famously said that, “if you can’t measure it you can’t manage it.” Applying a similar philosophy to innovation, if you don’t measure it, you will get less of it. Innovation is about incentives, and many incentives come from measurement. Yet, per a study by Accenture, two-thirds of federal managers say that their agency does not set specific innovation targets and benchmarks.<sup>34</sup> As such, the Trump administration needs to do more to establish stronger innovation incentives.

One way to spur more innovation in federal agencies is to simply shed more light on innovation practices, or lack thereof. For example, OMB could require agencies to report their top innovations every year, as well as crowdsourcing this to let the public weigh in. OMB should ensure that top innovations are included as agency priority goals and cross-agency priority goals, since these goals get “dashboarded” and tracked on a regular basis, making it more likely to see progress. In addition, Congress should task the GAO with a regular report on the state of innovation in federal agencies.

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### Make “Innovating” an Explicit Performance Expectation of Senior Officials

When senior officials are up for their annual reviews, their innovation performance and even “courage” over the prior year should be key factors in their evaluation, as is the case at leading private-sector firms such as GE. Related to this, the qualification criteria to join the senior executive service should include having successfully led an innovation project. (Note that we did not say having led a successful innovation project. A failed project does not automatically imply failure on the part of a manager.) OPM should work with senior agency leaders to ensure that innovating is part of performance reviews for all SES managers.

### Establish a Federal Innovation Awards Program to Provide Recognition for Innovators

While some programs like Harvard’s Ash Center have an innovation in government award, it is largely for state and local governments, and much of the focus is on government programs that address problems of public concern as opposed to innovation within the government enterprise. An innovation awards program focused on efforts in the federal government to innovate to work more effectively would fill that gap. As such, OMB should either establish such a program on its own or encourage a third-party organization (a university, consulting firm, or government technology media company) to establish an innovation awards program.

### Require More Agencies to Enroll in “Yelp for Government”

Incentives for innovation come both from the “carrot” of recognition and the “stick” of shame. Shedding light on agencies or practices that are not innovative can provide real incentives for managers to change.<sup>35</sup> One way to do this is to require more agencies to enroll in “Yelp for Government.” This obviously only works for customer-facing functions, but it could be a useful tool for federal activities such as national parks, post offices, airport TSA screening, etc.<sup>36</sup> If more agencies claimed their listings on Yelp, they could read and react to citizen complaints.

### Rank Agency Functions in Terms of Innovation

A related way to provide incentives for agencies to innovate would be to develop an annual ranking of agencies that are the most and least innovative when it comes to enterprise innovation. Agencies such as the National Aeronautics and Space Administration (NASA) and the National Science Foundation (NSF) are often ranked by employees as being innovative, but it’s not clear if this is because their mission is explicitly about technical innovation or because they are innovative internally. Annual surveys of federal agencies should begin to include a question, “how innovative is your agency?” Currently the OPM employee survey asks only that employees rate how well creativity and innovation are rewarded (not very well, for just 38 percent say it is).<sup>37</sup> This would help rank agencies in terms of innovation.

## Financing

Investments in innovation should be looked at the way organizations look at capital expenditures, an investment that costs money now with a payoff in the future, resulting,

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hopefully in a net present value greater than the cost of capital. One limitation holding back federal innovation is a lack of funding for pilot projects.

#### Congress Should Allow Agencies to Divert a Small Share of the Budget to Innovation Projects

Congress should create a federal analogue to the Small Business Innovation Research program, which allocates a small share of federal extramural R&D to small business innovation contracts. The analogue here would be that Congress could allow agencies to allocate a small share of their operating budgets, perhaps half a percent, to serve as an internal innovation seed fund to let agencies start pilot projects more easily. The authority could expire after five years, after which GAO would assess the results.

#### Congress and Agencies Should Allow More Shared Savings Partnerships

One of the challenges with contracting is that it is often static, with the federal government laying out requirements and the contractor(s) building to these requirements. If things change, which they almost always do—for example, the development of a new technology like mobile, the government and the contractor must renegotiate the contract to make changes. Another challenge for the government is getting the budget authority to issue a new contract. Agencies should be able to get budget authority for investments with a positive net present value ROI. But often that funding is lacking.

In these cases, agencies should be able to engage in partnerships with the private sector where business invests the capital to create and operate the program and in return keeps a share of the saving or revenue. These public-private partnerships are already creating savings in a myriad of different state government programs. In these situations, companies offer services to governments that are paid for through efficiency fees, which usually range from \$1 to \$3 per transaction to cover the cost of building and maintaining IT-enabled government systems. For example, when Montana automated many of its services, it used a self-funded model in which private firms supplied the service in exchange for a small fee added to online services that charge transaction fees.<sup>38</sup> At the federal level, the contract the National Park Service has signed for a long overdue redo of the recreation.gov website works that way, with the contractor being paid a share of every park reservation made. In other types of partnerships, such as the Free File electronic tax preparation, the private sector itself provides the service for no cost.

As long as agencies understand how to craft a contract that is fair to both sides, a key advantage of this approach is that the contractor has significant incentives to ensure a high-quality Internet experience that evolves as technology and customer expectations evolve, just as commercial Internet companies such as Amazon and Google regularly improve their services. This, in turn, brings more users to the service, increasing productivity for government and users.

#### Federal Innovation Oversight/Review

One big challenge for innovation in the federal government is that while success has a hundred parents, failure is an orphan, with everyone involved denying parentage. But this

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is because the evaluation institutions in Washington—from the IGs, to GAO, to congressional oversight committees—have not adequately understood the innovation process and do not usually have the ability to differentiate between good and bad failure. For them it's all just failure. But as professor Brene Brown writes, “there is not innovation without failure. Period.”<sup>39</sup> But there is a key difference between failure that stems from prudent risk, well executed; and a foolish risk, poorly executed. If the oversight institutions can't distinguish between the two, the result will be less failure, but also less innovation. There are several reforms that are needed.

#### The GAO and Council of the Inspectors General Should Better Understand Innovation Processes to Understand “Good” Risk Taking

All too often, these oversight and review organizations fail to distinguish between failures that follow appropriate risk-taking and effective implementation and failures that are the result of inappropriate risk-taking and poor implementation. These organizations need to move away from a “gotcha” approach toward one that only calls out agencies for having defective innovation processes, not for failing per se.

#### The GAO and Council of the Inspectors General Should Call Out Agencies for Not Innovating

IGs and the GAO look for failure of action, not failure of existing processes. Rather than look at waste, fraud, and abuse alone, they should look at waste and inertia from lack of innovation. This means holding agencies accountable for not innovating. One could imagine, for example, a GAO report with the title “The State Department Process for Getting a Passport Woefully Inadequate and Backward.” We need a corps of IG and GAO staff whose job is to audit agencies on lack of innovation and inform Congress of agency management practices that are behind the times.

#### Congressional Oversight Committees Should Not Penalize All Failed Innovation Efforts

Congress should embrace the same kind of thinking, so that when they call agency leaders to the Hill, they understand which ones took the wrong risks with poor innovation implementation and which ones did the opposite.

#### Innovative Government Procurement Practices

There is widespread agreement among those who think about innovation in the federal government that federal contracting is an inhibitor. In part, this is because government procurement is designed for execution, not innovation. All too often requirements are set too quickly and narrowly, not leaving space for innovative proposals. And once contracts are issued, contractors have little scope for innovation.

#### The White House Should Require Innovation Be an Explicit Criterion Within the Government Procurement Process

One way to spur innovation in procurement is to enable and incentivize more innovative proposals from contractors. While innovation should be an explicit criterion within the government procurement process, it currently is not. Some countries, such as the United Kingdom, have made innovation a clear goal of their procurement process for years. The U.K.'s Department of Trade and Industry requires all levels of government to consider

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innovation when awarding government contracts. They also have developed public-private partnerships to help public-sector employees with “unconventional but innovative procurement projects.”<sup>40</sup> In Australia, agencies are encouraged to single out innovative ideas by evaluating unique features of proposals as a separate criterion. Finland both includes “innovativeness” among the criteria for public procurement decisions and reserves a percentage of appropriations granted to administration agencies for innovation and development activities.<sup>41</sup> OMB and GSA should work together to model the focus on innovation in procurement after these other governments.

#### Ensure That Pre-Award Contract Specifications Are Broad Enough to Enable Innovative Solutions to Be Offered

All too often agency contract requests are defined too narrowly, prescribing a particular solution to the problem, rather than identifying a particular problem and letting bidders propose a variety of solutions. It is not uncommon for a business to have an idea for how to fix a federal problem, but not be able to bid on a contract solicitation because of the way the proposal was written. Agency procurement processes should be designed to enable companies to more easily identify innovative solutions.

#### Allow Contractors to Innovate Post-Award

Companies winning contract awards often have little incentive to come with new ideas that are different than what the contract specifies. If they do, the contract for the new work has to be rebid. The procurement process should provide an incentive for contractors to offer new ideas without fear of penalty. This could be done by adding a contractor line item (CLI) for innovation, where agencies could set aside a small percent of the contract award to let the contractor do innovation work. Or the company could propose an innovation idea, and the agency could add money to the project, provided it is below a certain percent of contract cost, with no new competition required. Doing this would also enable smaller, non-prime companies to more easily compete, since primes would now have more incentive to work with them if they offered innovative ideas.

#### Enable More Private Companies to Provide Federal Services

There is no reason why more federal services—particularly those related to business, such as the myriad of regulatory forms businesses must file—could not be set up so that external providers deliver the service. This would require agencies to open up their systems to private-sector integration, including through APIs. The advantage of such an approach is that private-sector providers have a very strong incentive to increase the use and efficiency of the e-channel and innovate in doing so. Rather than making citizens come to government for services, this strategy will encourage government services to go to people. Indeed, citizens should be able to aggregate a wide share of federal, state, and local government recurring transactions, such as passport renewal, driver’s license applications, and car emissions tests, and be able to have third-party private-sector providers be the intermediary for them in engaging with government electronically.

In the United States, federal tax filing is one relatively easy-to-use application. This is because more than 15 years ago the IRS partnered with the private sector to enable

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companies to provide integrated and user-friendly software packages to prepare and file taxes (some are for sale; others are free through the IRS Free File program).<sup>42</sup> Government should build on this model and work with the private sector to enable a wide array of government interactions to be completed in similar fashion. These can include applying for a Small Business Administration (SBA) loan, starting a new business, and exporting. The supposedly simple act of exporting, for example, can be incredibly daunting and paperwork intensive. “Turbo-business” applications can streamline this and many other areas, but only if government works collaboratively with the private sector to this end.

#### Establish Government “Platforms” for Innovation and Performance Metrics Where Outside Vendors Can Compete for Performance Improvements

For many government operations, agencies could clearly define performance metrics and allow vendors to compete to provide the optimal solution. Moreover, government agencies can regularly recompute these projects, so that if another vendor can come in with a better solution, it can integrate the new product or service. However, to do this effectively, government agencies need to establish metrics, so that they can evaluate different options and design modular open IT systems so that vendors can integrate their solutions.

As an analogy, in the 1980s, IBM created the IBM PC using an open architecture that made it easy for other companies to develop compatible components and software. Other companies also developed IBM-compatible systems, and this quickly became the de facto standard for personal computers, unleashing a wave of rapid innovation and development in computer hardware and software. Unfortunately, many government information systems are more like the proprietary computers of the pre-IBM PC era rather than the modular ones that enabled the private sector to rapidly compete and innovate.

A government agency that is trying to reduce fraudulent payments, for example, could measure how effectively its current program identifies fraudulent payments (i.e., false positives and false negatives) and establish a dataset of legitimate and fraudulent payments that outside vendors could use to test and improve their fraud-analytics software. The government agency could then evaluate whether newer solutions deliver better results on a regular basis, and commit to switching to a new solution if a vendor can demonstrate a certain percentage increase in effectiveness.

## CONCLUSION

Improving the operations of the federal enterprise has been the focus of task forces, reports, and White House efforts for more than 60 years, ever since the emergence of the discipline of management in U.S. corporations in the 1950s. And in many, if not most cases, the federal government did adopt and implement new practices that improved performance, albeit usually with a lag compared to corporate-sector adoption. But in the last 15 years, the management agenda in the U.S. corporate sector has increasingly been an innovation agenda, not just to adopt and effectively use information technology to reengineer processes, but to embrace innovation and innovation thinking more broadly throughout the enterprise. This thinking and approach has been slower to penetrate and be adopted in the federal enterprise for a number of reasons. Perhaps the most important one is that the

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federal government remains designed for an age of mass production, where the focus is on replicability and standardization. These solutions may have been adequate in a mass-production world, but in an age of innovation, enabled by a rapidly changing suite of information technologies, this orientation and system is poorly suited to enable and support innovation and provide the kind of government that citizens, as consumers and taxpayers, demand.

Changing this will not be easy, but it can be done. It will require, however, systemic changes across the federal enterprise to inject innovation thinking and action into the very DNA of the federal government. While innovation “tiger teams,” innovation labs, and other bottom-up efforts can help, without top-level leadership, and a significant one-time upgrade funding to transform the core of the federal enterprise, these efforts will remain on the edge.

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