Transforming Government Through Technology

A Report for the Next Administration

October 2016

American Council for Technology-Industry Advisory Council (ACT-IAC)

ACT-IAC is a non-profit educational organization established to create a more effective and innovative government. ACT-IAC provides a unique, objective, and trusted forum where government and industry executives work together to improve public services and agency operations through the use of technology. ACT-IAC contributes to better communications between government and industry, collaborative and innovative problem solving, and a more professional and qualified workforce.

The information, conclusions, and recommendations contained in this publication were produced by volunteers from government and industry who share the ACT-IAC vision of a more effective and innovative government. ACT-IAC volunteers represent a wide diversity of organizations (public and private) and functions. These volunteers use the ACT-IAC collaborative process, refined over 30 years, to produce consensus-based outcomes. The findings and recommendations contained in this report are based on consensus and do not represent the views of any particular individual or organization.

To maintain the objectivity and integrity of its collaborative process, ACT-IAC does not accept government funding. This paper was prepared by the ACT-IAC Institute for Innovation. The Institute is chartered to promote innovation in the delivery of government services and operations. It develops and delivers high quality strategic advice that reflects cross-industry recommendations base on the consensus of experts from ACT-IAC's member companies and government advisors and liaisons. We would like to thank the Institute's sponsors for supporting this effort.

ACT-IAC welcomes the participation of all public and private organizations committed to improving the delivery of public services through the effective and efficient use of information technology. For additional information, visit the ACT-IAC website at www.actiac.org.

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Disclaimer

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Further Information

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Introduction

Effective Strategies to Transform Government Using Technology

Effective, innovative use of information technology has revolutionized private sector business models over the last 20 years. Not only have most business-to-business and business-to-consumer interactions moved online, but entire industries have been transformed through business model changes enabled by information technology. Government has largely failed to keep pace with industry's business transformation and information technology revolution. Despite spending over $80 billion annually on information technology, most federal agencies have seen little change in how they perform their work or interact and transact with citizens, businesses, and other governments. Where change has happened, it has typically been the automation of current processes or providing information through websites. The lack of change is caused by federal laws, processes, and culture that inhibit or even penalize risk taking, change, and innovation.

The themes of this election year make it clear that voters believe government, and particularly its outcomes, must change. Accustomed to dealing with modern Internet-age companies like Amazon, Apple, and Google, customers that encounter old-school federal government processes are frequently left confused, frustrated, and angered. This reinforces citizen perceptions that government is ineffective and unable to address today's societal needs.

What sort of dramatic steps will it take to get government to raise its level of capability and performance? This report lays out a strategy for change that encompasses the skills, practices, and culture that private sector companies have demonstrated are necessary for success. While many of the recommendations can be implemented by the new Administration immediately, as part of its overall management plan, others will require longer-term cooperation between the Congress, the Administration, and the private sector.

In the near-term, the new Administration's management approach should focus on changing:
* The management structures and processes that inhibit effective decisions and penalize risk acceptance;
* Human capital policies and processes that make it difficult to hire and motivate the best personnel;
* The current budget process to make it better support technology programs;
* Cybersecurity approaches that value documentation over implementation of capabilities and political expedience over efficiency and effectiveness;
* Business practices that make it difficult to fulfill customers' expectations and needs; and

- Antagonism to innovation created by agency cultures that are averse to risk and change.

Longer term, the new Administration should work with the Congress to change:
- Outdated civil service laws that inhibit the hiring of technology and management talent;
- A federal budgeting processes that takes 18 months or more;
- Acquisition regulations that favor knowledge of government process over innovation;
- Laws regarding cyber-security that stress compliance exercises over elimination of threats; and
- Management data reporting required by agencies, the Office of Management and Budget (OMB), and Congress to eliminate duplicative requirements.

The recommendations in this paper are intended to be pragmatic, achievable, and bold. Taken together, they will begin to create an environment within which the federal government can better utilize information technology to serve its citizens and customers.

ACT-IAC Recommendations:

1. **Federal personnel practices must be changed to allow agencies to attract and retain a high performance workforce.** Highly skilled personnel accustomed to being cherished by the private sector simply do not choose to participate in the federal employment system. By itself, their non-participation virtually guarantees that government programs cannot keep up with their private sector counterparts. The chapter on human capital recommends short-term approaches to mitigate the current human resources problems and encourages a long-term approach to make the federal government an effective technology employer.

2. **Federal management processes must become more data driven and agile to encourage, rather than prohibit, success.** Even great people must be effectively managed. Federal management systems inhibit, rather than facilitate, the collation and communication of timely, critical management information necessary to make fast, effective decisions. Complex management structures, with un-empowered and stove-piped "chiefs" for nearly every function, make achieving and executing clear decisions difficult. The chapter on management systems recommends empowering Chief Operating Officers, streamlining decision-making authorities and processes, and implementing the agile management approaches being used effectively in the private sector.

3. **Federal executives must work around and through the budget process to enable more rapid change.** No private sector technology company could survive with an uncertain, 18 month budgeting process. The budget chapter recommends that every new appointee be immediately trained in how to use the budget process to achieve their goals, presents proven short-term approaches that the new Administration can implement to mitigate the problems the budget process causes, and encourages the new Administration to consider a longer-term fix to this critical problem.

4. **Federal Information Technology (IT) should be about the customer, not the agency:** Citizens are frustrated by their interactions with government, especially government websites. They compare the ease of use and transactions with the private sector to interactions with government and wonder why government can't keep up. The customer experience chapter recommends specific actions to remove the roadblocks and bring focus to how customers interact and get service from government.

5. **Federal, state, local, and tribal government systems should reflect customers "life events", not agency structure.** The confusion of systems across levels of government reflect the structure of government and decades of incremental program growth, not the needs of its citizens. Citizens live lives, have needs, and are frustrated when they interact with their government because it is complex, uncoordinated, and prone to error. The chapter on aligning federal, state, local and tribal government services recommends better information sharing and piloting a "life events" approach that reflects what, when, and how government is needed by its citizens.

6. **Current cybersecurity approaches have failed and new authorities are required to allow agencies to protect their critical assets.** Federal agencies cannot be trusted to protect the information they possess from cyber criminals and other adversaries. Yet government continues to take an incremental approach to fixing the problems. Our cybersecurity chapter recommends the federal government recognize that the battle over current systems is lost, put executives in place that recognize and can deal with the problem, and provide those executives with authorities necessary to change the tide of the cyber-battle being waged.

7. **Innovation must become a persistent capability for federal agencies:** Innovation inherently means risk, and risk is recognized as a career killer for federal employees. Government processes designed to reduce or control risk, from budget to acquisition to program management, succeed only in eliminating innovative approaches from the range of possible solutions. The innovation chapter recommends actions necessary to reap potentially massive benefits from continuous innovation in the federal government.

This report provides the next Administration with a range of recommendations to reduce the performance gap between government and the private sector in the use of information technology to create and support modern, effective, efficient business processes. Today, government is clearly failing in this area, not because of its people, but because of existing laws, processes, and culture. In some instances, moderate changes can mitigate the problems these processes cause. In others, including personnel processes, dramatic action must be considered in order to achieve the necessary change. In total, it is clear that government has fallen behind in effectively using technology to transform itself and must learn from the private sector in order to close that gap.

ACT-IAC is well-positioned to make recommendations to assist government in better utilizing today's information technology to modernize the federal government. Consisting of both federal employees and private sector companies, ACT-IAC deals with the complexities of federal information technology issues on a daily basis. ACT-IAC is focused on mutual understanding of how to drive dramatic changes in government through partnership with our private sector member companies.

The next Administration cannot succeed without talented people, whether the right people are hired directly as federal workers or acquired via a contract. Recent experience demonstrates that many of government's failures can be traced to its inability to attract and retain talent. As we saw with the troubled rollout of Healthcare.gov[1], failure to have the right people in place from the onset can do significant damage to the President's objectives and public opinion. Particularly in the case of technology initiatives, a comprehensive talent management strategy, incorporating appointed and career federal employees as well as industry, will lead to better results and more rapid execution of the President's agenda. Likewise, failure to address talent issues in the early days of the Administration will create execution issues that delay or derail the President's agenda. We recommend a four-point plan to staff the Administration, make better use of existing hiring processes in the near term, embrace the industry employee base as a critical talent asset, and initiate a long-term comprehensive civil service reform initiative which is badly needed to improve access to the talented employees needed to deliver 21st century solutions.

Problem and Analysis

Workforce Challenges Contribute to Program Risk.
Shifting demographics (45% of the federal workforce is over age 50[2]), an antiquated hiring process, poor or non-existent workforce planning, and the hyper-partisan political climate have left the government struggling to deliver the right talent for many mission-critical occupations and key leadership roles. Whether jobs are held by political appointees, career federal workers, or contractors, the lack of a strategic approach to managing the government's human capital poses a significant risk to its ability to execute day-to-day business, let alone complex new initiatives. Since 2001, the Government Accountability Office (GAO) has identified strategic human capital management as a high-risk area which

> *Mission-critical skills gaps in such occupations as cybersecurity and acquisition pose a high-risk to the nation: whether within specific federal agencies or across the federal workforce, they impede federal agencies from cost-effectively serving the public and achieving results. Addressing complex challenges such as disaster response, national and homeland security, and rapidly evolving technology and privacy security issues, requires a high-quality federal workforce able to work seamlessly with other agencies, levels of government, and across sectors.*
>
> *High Risk Series, An Update*
> Government Accountability Office
> February 2015

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[1] *Healthcare.gov – CMS Management of the Federal Marketplace – A Case Study*, Health and Human Services Inspector General Report, February 2106
[2] Fedscope data, December 2015

poses risk to the country. GAO's 2015 High Risk Report states "Mission-critical skills gaps in such occupations as cybersecurity and acquisition pose a high-risk to the nation: whether within specific federal agencies or across the federal workforce, they impede federal agencies from cost-effectively serving the public and achieving results."

Federal Hiring Processes Have Failed. Those mission-critical skills gaps are driven by government's hiring and pay processes that are generally recognized as relics of the 1950's. Beyond the anecdotal tales of lost applications, slow responses, and a process that appears designed to test how desperately an applicant wants a federal job, survey after survey shows that neither applicants nor employees nor hiring managers have confidence in the system. Consequently, the government's brand as an employer is weak. Research shows that organizations with a strong and attractive employment value proposition and brand are able to attract more[3] and higher quality candidates – often at lower compensation levels (organizations with a strong brand paid 25% to 50% less to acquire new employees)[4,5], retain a higher percentage of their workforce[6], and elicit higher levels of employee engagement and commitment[7,8]. President Obama's 2010 Memorandum, *Improving the Federal Recruitment and Hiring Process[9]*, concluded "the complexity and inefficiency of today's Federal hiring process deters many highly qualified individuals from seeking and obtaining jobs in the Federal Government."

Even those who are most familiar with the hiring process – current federal workers – have little confidence in the system, with just 43%[10] believing their agencies can recruit the right talent for mission critical occupations. Federal hiring is failing to recruit younger workers in particular, with the number of federal workers under age 30 shrinking from 234,000 in 2009 to 162,000[11] in 2016. The dearth of younger federal workers poses problems today and in the future as the government will lack an entire generation of experienced workers to move into senior technical and leadership roles. This issue is exacerbated in the federal digital and technology workforce, a crucial workforce sector that all agencies require. Senior technology leaders consistently report workforce issues as their first or second most

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[3] Corporate Leadership Council. (2006). Attracting and Retaining Critical Talent Segments: Building a Competitive Employment Value Proposition.

[4] Kucherov, D., & Zavyalova, E. (2012). HRD practices and talent management n the companies with the employer brand. European Journal of Training and Development, 36, 86-104.Ibid.

[5]Corporate Leadership Council (2006).

[6] Kucherov & Zavyalova (2012).

[7] Helm, S. (2011). Employees' Awareness of Their Impact on Corporate Reputation. *Journal of Business Research*, Vol. 64, pp. 657-663.

[8] Corporate Leadership Council (2006).

[9] *Presidential Memorandum – Improving the Federal Recruitment and Hiring Process*, May 2010

[10] 2015 Federal Employee Viewpoint Survey

[11] Source: OPM FedScope (www.fedscope.opm.gov) Data for September 2015

critical problem, with 50% of the government's information technology workforce 50 years of age or older and only 3.4% under age 30[12].

The Appointment Process is Not Working as Intended. Many other organizations are addressing this topic in detail. For brevity, we simply note that even talented employees are unlikely to succeed without effective leadership. Political leaders must be in place and empowered early in the administration if they are to have any chance of successfully enacting the President's agenda.

Contractors and Grantees are Not Treated as Part of the Workforce. Much of the government's information technology work is performed by industry, yet few federal agencies adopt a multi-sector approach (fully incorporating organic, contractor and grantee positions) to workforce planning and execution. The Defense Advanced Research Projects Agency (DARPA), one of the few to fully embrace a multi-sector approach, states "DARPA…does not perform its engineering alchemy in isolation. It works within an innovation ecosystem that includes academic, corporate and governmental partners, with a constant focus on the Nation's military Services, which work with DARPA to create new strategic opportunities and novel tactical options. For decades, this vibrant, interlocking ecosystem of diverse collaborators has proven to be a nurturing environment for the intense creativity that DARPA is designed to cultivate[13]." DARPA's approach recognizes industry, government, academia and not-for-profit organizations as parts of an interlocking workforce, which engages in day-to-day planning and operations promoting governmental objectives. The lack of cohesive workforce planning means agencies rarely look at their total workforce requirements and do not have a coherent strategy for meeting their workforce needs. In an environment with responsive and effective hiring and contracting processes, that would be a weakness. The government's ineffective hiring and contracting processes make it a key contributor to failure. For example, the Government Accountability Office (GAO) reported that agencies were struggling to identify and close skills gaps in mission critical occupations[14]. GAO cited telecommunications positions as an example where "…a decline in telecommunication expertise at multiple agencies contributed to delays and cost overruns of 44% when those agencies were transitioning to a new network of telecommunications services." If agencies conducted workforce and contracting planning in an integrated manner, they could recognize hiring problems earlier and use contractors when they recognize recruiting organic workers will not be successful.

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[12] Source: OPM FedScope (www.fedscope.opm.gov) Data for September 2015

[13] *Breakthrough Technologies for National Security*, Defense Advanced Research Projects Agency March 2015

[14] *OPM and Agencies Need to Strengthen Efforts to Identify and Close Mission-Critical Skills Gaps*, GAO, January 2015

Recommendations

Comprehensive civil service reform is required to meet the government's long-term talent needs, but a public policy change of that magnitude will require a lengthy period of study, involvement of many groups, and legislation. In the interim, the Administration can make far better use of existing flexibilities in Title 5 to satisfy requirements in mission critical occupations. Four steps can be taken immediately without legislation

1. **Use existing hiring authorities to achieve immediate improvements in hiring for mission critical occupations (MCOs).**

- **Move vacant positions in the hardest to fill MCOs from the competitive civil service[15] to the excepted service[16].** The excepted service is intended for those positions for which competitive hiring processes are not practicable. Hard to fill MCOs, such as cybersecurity, digital services, telecommunications and similar occupations are in high demand across the globe. Demand for cybersecurity positions alone is expected to increase 18% from 2014 levels by 2024[17]. Cybersecurity is much more than a single job series. The CIO Council's 2012 IT Workforce Assessment for Cybersecurity (ITWAC)[18] and the National Initiative for Cybersecurity Education identified 36 job series that include cybersecurity professionals, with nine job series comprising the majority of the workforce. The cumbersome federal hiring process, demonstrated inability to keep pace hiring young people, and uncompetitive entry-level salaries will continue to present obstacles to filling technology and other high-demand MCOs. MCOs include positions common to all agencies, as well as agency-specific jobs. Defense, for example, has 32 MCOs in 22 Functional Communities, ranging from HR specialists to Nuclear Engineers. The Office of Personnel Management (OPM) should grant excepted service authority government wide for common MCOs and move quickly approve agency requests for excepted service authority for agency-specific MCOs. Moving vacancies to the excepted service as an interim solution will allow agencies to better tailor their recruiting processes to the labor markets in which they compete, rather than trying to use a 1950s hiring process for 21st century occupations. Such a move can be approved by the Office of Personnel Management within weeks of the inauguration.

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[15] 5 USC §3302

[16] 5 USC §3161, 3301 and 3302 and 5 CFR Part 213 http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=e9a12e19ed4300a755c698ecc34499ce&rgn=div5&view=text&node=5:1.0.1.2.22&idno=5#5:1.0.1.2.22.1

[17] Bureau of Labor Statistics Occupational Outlook Handbook

[18] https://cio.gov/wp-content/uploads/downloads/2013/04/ITWAC-Summary-Report_04-01-2013.pdf

- **Use existing critical position pay[19], special salary rates[20] and recruiting/retention allowances to enable the government to compete for in-demand talent.** The Department of Defense CIO testified that "The challenge I think we are going to have in IT may not be exactly in the budget, it's going to be the retention of the IT workforce[21]." The inflexible nature of federal pay presents a significant barrier to recruiting for in-demand positions. Current law authorizes a number of flexibilities, but use of them is not common. For example, 5 USC 5377 authorizes pay up to that of the Vice President for up to 800 positions. From enactment in 1990 as part of the Federal Employees Pay Comparability Act (FEPCA) to 2015, less than 50 positions were approved for critical pay. Other FEPCA provisions authorized recruiting bonuses and retention allowances to assist agencies in competing for high-demand talent. Since 2011, OPM and OMB have limited agency use of these authorities to 2010 levels unless agencies can justify exceptions. Rather than discouraging use, we recommend the President direct OPM and OMB to issue, within 90 days, clear guidance to agencies on the types of situations where these authorities are appropriate and allow agencies to use them within their existing payroll budgets.
- **Designate agencies as "Recruiting Managers" for key MCOs.** In 2016, Congress passed the Competitive Service Act of 2015, allowing agencies for the first time to make selections from lists of candidates other agencies have recruited. Now that the statutory barrier has been removed, we recommend the President direct OPM to identify, within 120 days, MCOs that are used in more than one agency (such as the most populous cybersecurity job series) and are considered hard to fill, and designate an agency or agencies to serve as Recruiting Managers for each. Recruiting managers would form coalitions of agencies to identify barriers to hiring, recommend categories of positions for movement to the excepted service, coordinate and execute college and other recruiting initiatives, and prepare and issue lists of highly qualified candidates from which agency hiring managers could select.
- **Conduct real recruiting for critical occupations.** Too often the government posts jobs on USAJobs as their only recruiting outreach. Use of other recruiting sources, including social media, is the exception rather than the rule.
- **Repair the damage to the government's employer brand.** The government employer brand has suffered in recent years as federal employees have become the target of political attacks, pay freezes, and reductions in benefits. The President's Management Council should take the lead on a government-wide effort to rehabilitate the brand.
- **Use shared services and technology consolidation to repair the human capital infrastructure that supports our ability to hire and retain talent.** The government's human capital offices and systems are unable to get the best results from today's hiring processes and there are too many individual HR organizations and redundant systems to effectively implement any kind of comprehensive civil service

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[19] 5 USC §5377
[20] 5 USC §5305
[21] Testimony, Terry Halvorsen, House Armed Services Emerging Threats and Capacities Subcommittee, March 2016

reform. Human resources staff comprise 2%[22] of the federal workforce, but many lack the technical and consultative skills necessary to provide the type of advice and assistance hiring managers need. In 2011, OPM and the Chief Human Capital Officers Council identified six government-wide occupations where significant skills gaps exist, including human resources specialists. The skills gaps are paired with an excess of HR offices and systems, with agencies buying multiple instances of the same systems and using systems that are neither interfaced nor share data. In 2011, the Department of Homeland Security, for example, identified more than 400 HR systems it is using, many of which are multiple purchases and instances of the same product. The lack of centralized management of such systems increases costs and risks of breaches. Consolidation of providers and systems and greatly increased use of shared service centers will reduce costs, improve effectiveness and reduce risk. The Office of Management and Budget, the General Services Administration and OPM have taken steps in this direction, but much more remains to be done. We recommend the President direct OMB and every CFO Act agency to review their services that are appropriate for shared services and report within 180 days which will be moved to shared service centers and which will be retained as is, along with the rationale for those decisions.

2. **Use a data-driven approach to workforce planning, recruiting, retention and other human capital management objectives.**

Agencies and OPM have a wealth of people data. Unlike successful organizations such as Google, the federal government does not use that data to manage human capital programs. Google "People Operations" lead Laszlo Bock says ""We try to bring as much analytics and data and science to what we do on the people side as our engineers do on the product side.[23]" The result is that Google is consistently listed in the top 5 in Fortune's "Best Companies to Work For" review[24]. We recommend the Administration use data to drive human capital policy and processes, beginning with the hiring process and focusing on mission-critical occupations such as Cybersecurity. Existing hiring processes are typically reactive, often not beginning until vacancies actually exist. If an agency has a realistic workforce plan and knows the lead time to recruit and train new employees in its mission critical occupations, it can design and implement hiring programs that begin outside of the lead time for that occupation. For example, if an agency knows it takes 24 months to recruit and train an entry-level employee, it can begin that process more than 2 years out to ensure it is delivering new talent when it is needed. Doing that requires data on turnover, recruiting lead times, performance, workforce and labor market demographics, and more. Those data present a major opportunity for the President to leverage data analytics to improve the federal workforce. Google, Xerox, Royal Dutch Shell, Microsoft and other

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[22] Source: OPM FedScope Data for September 2015
[23] Laszlo Bock Interview, CBS This Morning, January 2013
[24] *Best Companies to Work For*, Fortune Magazine, 2016

companies are building people analytics capabilities with transdisciplinary teams of industrial and organizational psychologists, statisticians, and analysts. One survey by MeriTalk said data analytics has the potential to save agencies as much as 14 percent of their budgets. The opportunities to apply predictive and prescriptive analytics are vast: agencies can use statistics to more accurately measure the effectiveness of their diversity recruitment programs, gauge the effectiveness of their performance management systems, generate predictive models to identify the root causes of costly employee turnover, and mine unstructured text data for clues on employee engagement and satisfaction. We recommend OMB and the CHCO and CIO Councils form a task force within 90 days to identify, within 120 days, specific actions for use of analytics to aid talent management for mission-critical occupations that can be implemented in the Administration's first year.

3. Move rapidly to fill the appointed positions that are critical to the President's policy objectives.

Appointees are the Administration's primary means of communicating the President's policy objectives to agencies and ensuring they are carried out. The Partnership for Public Service Center for Presidential Transition[25] has an excellent set of recommendations on this subject, including filling the top 100 leadership positions, including the Cabinet secretaries, soon after the inauguration and another 300 critical positions throughout federal agencies by the congressional recess in August, roughly 200 days into the new administration. The Administration should identify positions that are most critical to the execution of the President's most urgent program initiatives for priority.

4. Begin the dialogue to develop and implement comprehensive Civil Service reform.

Making better use of existing statutory and regulatory authorities is a measure to bridge the gap until comprehensive reforms can be formulated, passed and implemented. The civil service is based largely on a job classification, pay and hiring processes designed in the mid-20th century, at a time when more than half of federal workers were clerks at GS-5 and below and jobs were advertised locally with paper job announcements. Today's workforce comprises highly skilled knowledge workers, with more than half[26] at grades GS-11 and above. When the current job classification system was written in the 1950s technology jobs were rare. Today they are essential for any agency's success. Hiring in the private sector has benefitted greatly from effective use of technology, yet the government uses automated versions of its outdated processes. As the government has attempted to make improvements, new

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[25] http://presidentialtransition.org/timeline/appointments/index.php
[26] Source: OPM FedScope Data for September 2015

hiring authorities have been added, resulting in more than 200 hiring authorities[27] creating a complex web that only a few can navigate effectively.

At the same time that it is struggling to recruit new talent, the government's ability to deal with poor performance in its existing workforce has come under increasing scrutiny. Only 28% of federal employees agree that "In my work unit, steps are taken to deal with a poor performer who cannot or will not improve." Even when dealing with probationary employees who can be fired with little recourse, agencies are reluctant to remove or downgrade employees. In 2013, only 58 supervisors were removed during probation. Government-wide, only 3,500 were dismissed for performance or conduct, but the number who resigned under pressure or negotiated a settlement for a clean record is unknown.

Recent Congressional attempts to address the problem have focused on removing due process or appeal rights, or even moving the government to an "at will" employment model. Given the risk that "at will" employment could return the government to a spoils system, such an approach is not likely to result in a more effective civil service.

Throughout U.S. history, a lack of civil service protection for government employees produced a workforce based on political connections rather than merit. Prior to the passage of the Pendleton Civil Service Reform Act of 1883, incompetence and corruption flourished throughout the Federal Government, as individuals were appointed and retained (or separated) based upon political contributions rather than capabilities or competence[28].

We recommend the President establish a Commission on Public Service, comprising a wide range of experts from government, industry, and academia, to make recommendations for a comprehensive, budget-neutral approach to civil service reform that will produce:

- A modern, flexible process for job classification process that reduces the current 400+ job classifications by at least 75% and supports significant delayering of the bureaucracy;
- Market-based pay that allows the government to compete for and retain talent;
- Performance incentives for individual and organizational excellence;
- Streamlined hiring practices that preserve merit as the cornerstone of public service and recognize the highly mobile nature of post-baby boom generations;
- A performance culture that uses outcome-based measures to support reward systems;
- Accountability measures to ensure poor performance and misconduct are addressed;

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[27] *Federal Appointment Authorities: Cutting through the Confusion,* Merit Systems Protection Board, June 2008
[28] *What is Due Process in Federal Civil Service Employment,* Merit Systems Protection Board, May 2015

- An approach to leadership that holds supervisors and managers accountable for employee engagement and organizational performance;
- An effective process to allow government and industry to exchange talent; and
- A reimagined 21st century Senior Executive Service that includes greater accountability, a peer review process for adverse actions (much like the US armed forces processes for general/flag officers), and a performance-based pay process that directly links executive pay with agency outcomes.

While the President can achieve some improvements within current statutory and regulatory frameworks, the need for talent will continue and accelerate as the federal workforce ages and retires. Civil service reform is so critical that it should be undertaken early in the President's first term to allow the type of complete and transparent public discourse that such a fundamental change to public service requires.

Upgrading the Management Approach to Support Performance Management

Numerous archaic, inflexible federal management systems are primary contributors to the failures and lack of performance of government programs. Over the years, a number of reports and articles have highlighted the inherent challenges[29]:

> Management Systems includes the components needed to manage both mission programs and mission-support operations – it is the ecosystem of policies, process, organizational structure and IT systems.

- organizational structures, policies and processes hinder the adoption of innovative management approaches to address problems;
- accountability and performance are not connected;
- organizational cultures discourage collaborative problem solving and escalation of issues and risks to higher management levels; and
- IT systems are ineffective in tracking and managing performance – they seldom provide real time data and performance tracking. Limited quality data hinders making informed decisions, and the culture does not reward using performance data to make decisions.

Federal performance is frequently compared to the private sector, but the differences between their management systems are stark. Private sector companies invest substantial effort to create management systems that provide clear lines of sight into enterprise performance in near real-time; enabling companies to improve operations, eliminate process inefficiencies, and rapidly identify and respond to problems. The most successful companies use agile, efficient processes that are consistently implemented and enforced to make investment decisions, assess investment effectiveness, and refine policies, procedures, and management systems. By comparison, most federal agencies' management systems are typified by slow, ineffective, bureaucratic decision-making driven, by diffuse responsibilities, ineffective oversight, and data that is frequently out of date or known to be wrong.

This paper recommends three fundamental changes to federal management systems to begin to improve their results:

- Ensure that fully empowered Chief Operating Officers are in place in all federal agencies, with full authority over all agency operations, including all management policies and systems.
- Pilot and implement agile management reforms to better emulate private sector management systems and drive improvement of federal management systems.

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[29] http://www.gao.gov/highrisk/overview, GAO High Risk List

- Deploy proven private-sector management practices and systems to provide real-time management information necessary for effective decision making.

Problem and Analysis

Organizational Structures, Policies, and Processes

The distribution of management authority and responsibility in federal agencies, along with governance structures, is outdated; making agency-wide decisions on improving efficiency and effectiveness nearly impossible. Many senior level "Chief" executive officer (CxO) positions have little actual control over the functional areas their titles imply. Many CxO functions have authority to say "no" in decision processes, but do not have accountability for defining and executing an effective action. They are "Chiefs" in title only – virtually all CxO functions in government agencies have fragmented accountability and authority (i.e. IT, human resources, acquisitions, privacy, etc.). As a result, operating decision-making is laborious, processes are often unclear, and decisions are not made in a timely manner. Importantly, this includes the role of the Deputy Secretary as Chief Operating Officer.

Outdated processes, policies, and laws make it challenging for agencies to adopt and use innovative and evolving management approaches. For example, a number of initiatives to catalyze adoption of agile software development were recently launched, including the US Digital Services, the General Services Administration's 18F, and others. However, agile software development methods must be coupled with rapid management decisions. Current management policies, procedures, and laws do not provide the flexibility needed to adopt agile approaches, and in fact, have inhibited more rapid adoption of agile management approaches across government. This hinders agencies' abilities to keep pace with their customers' needs as they evolve, particularly with online digital services, information sharing, and integration with State and Local government service delivery reforms. Few agencies have been able to adapt quickly enough to adequately address the public's needs.

Organizational Culture

Organizational culture is a critical barrier contributing to failures in federal government programs. The fragmentation in management systems enforces the cultural barriers. In today's environment, where issues and challenges cross agency boundaries, success depends on a workforce that is adept at working across functions and mission domains. While missions and functions often overlap, most agencies are structured as silos reinforced by budgeting practices and appropriations laws, creating minimal internal collaboration within the agency, let alone across agency lines. This has a direct impact on the number of

failed government initiatives, and creates significant fragmentation and duplication (i.e. waste) in Government programs.[30]

Accountability

Federal management systems, designed to meet the requirements of a myriad of laws and regulations such as the Chief Financial Officers Act, Government Performance and Results Act, Information Technology Management Reform Act, and Federal Information Technology Acquisition Reform Act have the direct, if unintended, effect of making accountability difficult. Without clear accountability, finding a decision maker frequently requires escalation far higher than should be necessary, causing significant delay and unwanted attention. Rarely is there one person who is responsible, accountable, and possesses the authority to deliver a new initiative. Instead, multiple people with myriad interests can stop an initiative, and only a few can say yes. As a result, agency cultures tend to suppress negative information until failure is obvious. Lack of escalation is a specific symptom of operating without accountability. It allows risks and problems to grow without enabling (and demanding) higher-level management and appointed officials to become aware and take corrective action.

Organizational Systems

Technology and systems play a critical role in tracking and managing performance. However, the IT systems used to manage mission and mission-support operations are among the oldest systems in government. They are not aligned to measures of agency objectives and seldom provide effective real time data and performance tracking. Frequently, the management systems within one agency duplicate functions and have inconsistent data, resulting in a lack of ability to obtain a coherent, holistic view. This lack of modern management IT systems has locked federal managers into the management practices of the 1970s

> **Enterprise Architecture** provides a structured plan and approach to transform the enterprise into a future, target state with specifically identified improvements in management and mission performance, guiding CPIC
> **Shared Services** provide for centralization of required expertise and product support, while offering efficiency from economies of scale
> **Agile Development** allows for iterative and incremental improvements, thereby reducing risk, increasing flexibility, and rapid delivery of usable capabilities

and 1980s, with data available weeks or months after insights are needed. Decisions are left to insights based on old data, or no data, creating the management equivalent of attempting to cross Pennsylvania Avenue traffic based on a photo that is ten minutes old.

Compare this situation to the private sector, where management IT systems provide near real-time data and a clear line of sight into enterprise performance, allowing companies to diagnose the key drivers,

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[30] GAO-16-375SP Additional Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits, 04/13/2016.

eliminate process inefficiencies, and achieve better outcomes with the help of effective management approaches. Continuing to use outdated management IT systems and practices will continue to result in failed investments and programs, making it challenging for the new Administration to meet its performance agenda.

Recommendations

1. Revise Organizational Structure, Policies, and Processes

Restructure roles to align accountability and responsibility rather than filling jobs based on titles – too many chiefs can cause confusion. Empower Deputy Secretaries (and equivalent positions for smaller agencies) modeled on commercial Chief Operating Officers, making them accountable for all aspects of an agency's mission and mission-support operations. Provide clear authority over both mission and mission-support operations, including capital improvements, so that they lead significant operational improvements.

Simplify directives and policies, align accountability and responsibility with authority, and generate the corresponding documentation to ensure agencies can easily comply, including associated penalties (e.g. taking back budgets) for non-compliance. Flatten hierarchical structures and create on rapid and transparent information flow throughout the organization. Eliminate redundant reports or reports that do not add value.

2. Revamp Organizational Culture

To ensure successful change in culture, it is imperative for leaders to establish the vision, management behavior, and incentives to be demonstrated by incremental wins. These steps will enable leaders to take a balanced approach to risk and rewards emphasizing incremental value and outcomes. Require agency leadership to lead by example and demonstrate the key behaviors intended to be adopted by all management levels. Define and deploy agile management practices in key priority areas and flagship programs within each agency, and deploy this approach across every agency within the first four years of the administration. To instill a collaborative culture, develop cross-functional taskforces and clearly articulate roles, responsibilities, and authorities for key priority areas that require inter-and intra-agency collaboration. Make data-based decisions the norm not the exception. Identify the essential metrics and data that the agency COO will use to manage operations.

3. Replace Organizational Systems

Replace legacy federal management IT systems with proven commercial products for real time data assembly, analysis, and insights needed to improve achievement of agency performance objectives. New systems are needed to measure performance in real-time, and reduce the overlap and duplication of multiple management systems. Mandate private sector best practices in accounting, such as activity-based costing and a one-day "close" for periodic financial reporting. Identify dependable authoritative data sources and base near-term decisions on available, verifiable information. For the longer term, initiate systematic, incremental, and iterative improvement of data quality both at the agency and enterprise level, reducing data inconsistencies and inaccuracies. Achieve agreement between Congress and OMB on the management data needed and apply the Government Performance and Results Act authorities to ensure that agencies utilize that data (and more) directly in their interactions with Congress and management of the agency and its programs. Sponsor continued development of the roles of OMB and the GSA Unified Share Services Management office, driving constructive adoption of policies, acquisitions, implementation, deployment, and operations of shared services. Leverage the insights and results as a catalyst for cross agency collaboration.

Achieving Program Agility Within the Federal Budget Process

While technology delivery cycles continue to shorten and accelerate, the federal budget process, on which all federal information technology (IT) programs depend, takes more than 18 months from initial planning to provision of funds, impeding the effective acquisition and use of technology to improve government results. Additionally, budget unpredictability caused by 20 years of continuing budget resolutions and budget sequestration has further complicated planning, allocation and use of funds by agencies. The way technology programs budget and execute funding needs to change, including needed changes to appropriations. However, while changes to appropriations law are needed to enable effective use of technology in government, this report focuses on what can be done within current law.

Recommended actions to improve budgeting for information technology include:

- Budget Education, Analysis, and Communications: New federal appointees should receive training early in their tenure on how to best use the budgeting process to achieve their goals. Analytic capabilities and communication guidelines should be further developed to ensure continuous dialogue between political and federal executives. Proactive efforts should be made to improve communications between OMB and the federal agencies.

- Leverage Available Budget Flexibilities: Numerous budget flexibilities exist and they should be utilized to the maximum extent possible. Working capital funds, franchise funds, multi-year appropriations and other approaches could mitigate the impacts of the budget process for agencies where they are implemented.

- Establish Incentives to Save: New approaches should be implemented to eliminate the highly wasteful "rush to flush" that occurs each September. Change agency culture and behavior to focus on saving money, rather than pressing to spend each year's budget in its entirety. A variety of models could be used to realize savings from IT operations that could be redirected to fund modernization and innovation.

In each of these areas, we recommend approaches and options that could enable flexibility in technology and innovation through the federal budget cycle, combined with fundamental applications in budget with an actionable framework for real-time decision-making.

Problem and Analysis

Budgeting Complexities
The federal budgeting process is complex, and can challenge executives and managers of federal programs when responding quickly to citizen needs or pivoting to meet new or unexpected public policy requirements. The laws, policies, and procedures that govern how the federal government can budget and spend resources are different from the way a private business or citizen is able to manage their finances. Yet the federal budget process is the only legal way a federal executive can obtain the resources needed to execute a federal technology program.

The federal budget process and financial management system started with the Budget and Accounting Act of 1921 and has been updated frequently. While it is lengthy by design and can be highly inflexible, there is often more flexibility in this process than is typically understood. For example, options such as working capital funds, franchise funds, and multi-year funding are available to add flexibility to the budget process and more effectively support agency technology initiatives. Those options must be supported by robust mission driven planning and programming processes that ensure that IT investments are well aligned and integrated with departments' and agencies' governance and performance management programs.

Multi-year funding
All funding for Executive Branch agencies is appropriated for defined periods of time that determine when funds must be obligated. The options include annual, multi-year or no-year accounts. Agency CIOs with the authority to obligate IT-related funds appropriated in one year but available in subsequent years are able to better plan and select IT investments that support the agency mission delivery and performance management requirements. In contrast, federal departments and agencies with single-year budget authority must obligate appropriated dollars during that fiscal year, i.e. before September 30th, or the funds lapse and return to the U.S. Treasury. This often leads to inefficient patterns of spending at the end of the fiscal year, sometimes known as the "rush to flush." CIOs would welcome the option to use funds from the current budget year in the next year or later fiscal years, which would allow for more robust planning and providing the discretion to spend more efficiently.

Twenty-four agencies receive at least some multi-year appropriations, often representing a significant portion of total budget authority. Multi-year funding enables an agency to:
a) Obligate and spend in the first year;
b) Obligate and spend in out-years; and
c) Obligate in the first year (or any year for no-year funds) and spend in out-years

Working Capital and Franchise Funds

Agencies that provide business-like activities (contract vehicles, cloud services) and/or administrative services (financial and HR systems) have to a large extent moved beyond the reliance on single-year funding sources. Two types of intergovernmental revolving funds are available - working capital funds and franchise funds.

- Federal working capital funds are established when an agency can demonstrate full cost recovery and operate like a commercial business by providing goods and services in exchange for a price or rate. After initial establishment, a working capital fund does not receive appropriated funds. A working capital fund, when managed efficiently and effectively, can promote full cost visibility and recovery for services and activities within a department or agency. Further, all income is derived from its operations and is available to finance the fund's continuing operations without fiscal year limitation, including allowing for some capital or reserves for IT innovation.

- Federal franchise funds, identified in law for a specific purpose with associated budget authority, record offsetting collections, obligations, and outlays for a business-like activity conducted both within an agency and for other agencies. Since authorization by the Government Reform Act of 1994, agencies have been allowed to establish funds on a reimbursable basis within agencies. These are self-supporting business-like entities to provide common administrative services on a fully reimbursable basis and to retain a percentage of total annual income. Five large departments have franchise funds for common services. Franchise funds typically retain only 4% of annual revenue as a reserve. Similar to working capital funds, franchise funds must return excess funds at the end of the fiscal year.

The difference between federal working capital funds and franchise funds is that generally speaking, franchise funds can sell their services to other agencies, whereas only a few working capital funds can do so.

Recommendations

1. **Provide Budget Education, Analysis, and Communication**

   - **Provide a mandatory budget class to all new appointees, and establish a simplified budget process handbook.** When the Presidential Transition occurs, there will be many executives joining the ranks of civil service who may not have a working understanding of the federal budget process. It is critical to ensure that executive leaders begin their term with a clear understanding of the overall budget process, so they can take maximum advantage of flexibilities and avoid the

delays and pitfalls typically experienced as senior business executives "learn" how public sector budgeting works. To effectively manage programs, it is paramount to understand the budget cycle. This includes identifying what is set in law and what can be altered, determining critical steps, and understanding what key decisions need to be made, what resources will be required, and where to look for answers.

- **OMB should acquire and provide expertise and guidance to new appointees to help them understand how to analyze their budgets.** Analysis will play a pivotal role in helping understand spending trends, identify redundant spending, challenge commonly held beliefs, and allow for more informed decisions to be made on an expedited basis. Many decision makers will also face challenges associated with data quality and the related reliability and usability of outputs generated by analysis. This is likely to slow the decision making process, but could also allow for the emergence of innovative ideas on how to finance required IT services within the boundaries of the federal budget process. A field guide or app would benefit the multitude of people serving the new administration, providing the necessary education and insight that could be accessed at any time.

- **OMB should establish regular open communications sessions to help new appointees better communicate with OMB**. Incoming executives need to know the history and culture of their budget and organization in order to understand how to work with OMB and Congressional authorizing and appropriations committees and subcommittees. It is also paramount that they understand how to work across functions within their department or agency (e.g. Chief Information Officer, Chief Finanacial Officer, Chief Acquisition Officer, Chief Human Capital Officer, and mission program managers). This requires continuous and open communication between political and career federal executives, as well as with OMB staff, on the opportunities to advance budgetary options to enhance the use of IT investments for improving mission delivery for the taxpayers. Offering a session where individuals could meet their OMB counterpart point-of-contact would help establish and build these pivotal relationships.

2. **Leverage Available Budget Flexibilities**

Leverage flexibility already available in the budget process by:
- **Taking advantage of working capital funds, franchise funds, and/or multi-year funding**. Federal franchise funds record offsetting collections earmarked by law for a specific purpose and associated budget authority, obligations, and outlays for a business-like activity conducted primarily within an agency. Since authorizing by the Government Reform Act of 1994, agencies have been allowed to establish funds on a reimbursable basis within agencies. These are self-supporting business-like

entities to provide common administrative services on a fully reimbursable basis and to retain a percentage of total annual income.

The nuance between Federal WCFs and FF is that generally speaking, WCFs can retain all income whereas FFs may be allowed to only retain a certain percentage, maybe 4 percent, and must return excess funds at the end of the fiscal year. Franchise funds differ from agency to agency so a review of funds language is necessary.

- **Promoting government-wide programs that leverage standard business processes and support a shared services IT model.** Shared services, and more broadly IT, are the source of funding for a number of projects. New ideas within the innovation agenda allow for a new category for IT budgets and this provides a mechanism for additional allocation of resources.
- **Expanding appropriation authority to carry funds over from year to year.** Programs should be allowed to carry over up to 10% of program dollars to the following year in order to keep IT programs more fluid. This could also be achieved by establishing an internal pass-through funding mechanism to allow direct charge back to users.
- **Encouraging and incentivizing the use of new service delivery models.** One potential solution is the "as-a-service"" approach, in which a program pays for what they use. The "as-a-service" model enables government to procure and consume exactly what they need to pursue their mission, shifts the risk of obsolete technology to third-party service providers, and allows some cash-flow flexibility in a constrained budget environment. With the appropriate authority in place, innovative financing options such as cost sharing across multiple agencies could give some economies of scale to negotiate contractual agreements with IT providers and allow for more flexibility and cheaper procurement options.
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3. **Establish Incentives to Save**

Incentives to save are keenly needed and it will likely require authorizing action and guidance to introduce and use new models.
- **Provide more guidance to help agencies address the hurdles that stand in the way of widespread federal adoption of Share in Savings (SiS) models** that allow agencies to recoup savings. Allowing agencies to retain funds they save would incentivize them to move to shared services or as-a-service models, freeing up money that can be used on mission or modernization efforts
- **Develop SiS training and dedicated support for the federal acquisition workforce** to help create, manage and solve SiS challenges as agencies move to shared services and the as-a-service model. Dedicated resources should be set aside, like those set aside in 2008 for the Defense Acquisition Workforce Development Fund, to provide for training. Similarly, the creation of a SiS Center of

Excellence could provide outreach, training and on-the-ground technical expertise to help expedite the adoption of these contract vehicles.

- **Implement a more comprehensive cost accounting system** to assist the government in understanding how much products and services cost, while helping to establish baselines for future SiS models.
- **Develop better cost baselining methods** against which savings-based payments can be calculated.
- **Clarify authority and guidance to pursue new or unfamiliar contracting approaches**. More specifically, technical guidance is needed to address the twin challenges of termination liabilities and potential Anti-Deficiency Act (ADA) violations.
- **Re-invest in-house cost savings.** Most Federal agencies have established day-to-day operations that could be consolidated or re-aligned, reducing costs within the same spending year. Savings from these cost reductions could be re-channeled to specific IT projects supporting or enhancing the same day-to-day operations that generated the cost savings without violating Federal Budget rules.
- **Drive the further adoption of Shared Services** by incentivizing or mandating the movement OMB and multiple federal agencies have undertaken efforts to streamline back office operations for example, moving to four payroll centers of excellence. However, duplicative efforts in financial systems, HR systems, and IT operations are still widespread and there is a significant opportunity for cost savings. Some of the potential cost savings initiatives associated with eliminating duplication will affect the size of the labor force and are considered politically sensitive.
- **Support IT Modernization legislation and funding mechanisms.** The President's FY 2017 budget proposed establishing a government-wide Information Technology Modernization Fund (ITMF) and the Congress has several bills pending to address this issue. The next Administration should prioritize providing resources to modernize obsolete legacy systems along with strengthened project management and oversight, less costly servicing models like shared services, and the flexible funding approaches described above. Together, these practices can reduce costs and enable delivery of better, more secure services.

Ideally the new Administration will address the dual issues of the lack of predictability and reliability in Federal funding in concert with the lack of flexibility to adapt to changing circumstances. We recommend a coordinated effort between the new Administration and the appropriate Congressional leadership to develop an approach that provides mutually acceptable transparency, accountability, and flexibility for the federal government to be able to take advantage of rapidly changing technologies to improve services to citizens and government operations. Finally, federal executives need to adopt a holistic approach to managing the lifecycle of IT investments from initial planning and identification of the mission needs to the construction of the funding model which will support the project from beginning to completion.

Government For the People
Addressing Citizens' Experience with Government

Citizens and businesses deserve easy, useful access to federal government services. Yet, by all measures, the government's ability to effectively serve the public and meet their expectations is in decline. Customer satisfaction and trust-in-government scores continue to drop to historic lows. Improving citizens' experience requires changes in government culture, talent, governance structures, performance measures, technology, and the ability to collect feedback from the public. We recommend a five point plan focused on improving customer experience within the first 100 days of the new Administration. Improving citizens' experiences will not only provide the public improved services in health, safety, financial, and benefits programs; it will also reduce costs and risks and increase trust in government, citizen engagement, and government employee engagement.

Problem and Analysis

Across diverse sectors of the economy, a customer experience revolution is underway. Fundamentally new customer-centric methods are changing how, when, where and by what means products and services are delivered to customers. Customer expectations about what constitutes acceptable service are also evolving rapidly.

U.S. federal leaders have not ignored this revolution. Federal agencies have taken steps to become more customer-centric. In 2010, the federal government established a goal to improve federal customers' experience. Programs such as Federal Student Aid, the State Department's Bureau of Consular Affairs, Healthcare.gov and the Internal Revenue Service made considerable strides. However, a major survey showed that two-thirds of the agencies did not improve from 2015 to 2016. Key indicators show the federal government has failed to keep pace with citizens' expectations:

- The federal government ranks second-to-last out of more than 40 industries measured by the American Customer Satisfaction Index.[31] The government's 2015 ACSI score of 63.9 out of 100 is its lowest in nine years, dropping 4.5 points since 2012. This decline was driven by lower ratings for courteousness and professionalism of federal staff and a drop in satisfaction with government websites.

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[31] American Customer Satisfaction Index, *ACSI Federal Government Report 2015*, January 26, 2015. Retrieved from http://www.theacsi.org/news-and-resources/customer-satisfaction-reports/reports-2015/acsi-federal-government-report-2015

- Forrester's Customer Experience Index for 2016 rates the federal government dead last of the 17 industries measured. The study shows that federal agencies ignore the key drivers of customer experience. Agencies ignore the role that emotion plays in customer experience (CX), obsess over technology rather than employees, and focus on what they believe the public wants rather than what actually drives CX.[32]

The federal government's largest customer experience challenges

Our research shows that ten key departments and agencies drive the government's CX challenge. These agencies facilitate the majority of public's interaction with the federal government, across all service channels, and deliver services related to the safety and protection of the homeland and travel, border security and immigration, revenue , and benefits for Veterans, seniors, students, children and the poor and disadvantaged. They include:

- Social Security Administration (SSA) provided assistance to more than 43 million visitors to field offices and issued more than 16 million new and replacement social security cards in 2014;
- Internal Revenue Service (IRS) processes more than 147 million individual income tax returns and 2 million corporate returns annually;
- Department of Homeland Security's Transportation Security Administration screened more than 653 million passengers with more than 23 million page views to the TSA pre-check website;
- DHS' Customs and Border Protection processed 375 million pedestrians and passengers at 328 ports of entry;
- DHS' Citizenship and Immigration Service processed more than 7 million benefit requests, including applications for naturalization, lawful permanent residence, change of status and refugee and asylum protection;
- Department of Health and Human Services Centers for Medicare and Medicaid Services served 54 million people enrolled in Medicare and 64.9 million people enrolled in Medicaid in 2014. Healthcare.gov received 1.3 billion page views and 25 million calls to the call centers for Medicare and the marketplace;
- Department of Education's Federal Student Aid provided $133.8 billion in aid to 12.9 million students in 2014 with 114 million visitors to FAFSA.gov and 43 million to StudentLoans.gov;
- Department of Veterans Affairs processed 1.3 million disability and pension claims, disbursed education benefits to more than 1 million students, and provided care to more than 8.3 million veterans.
- Department of State issued more than 14 million passports and passport cards with more than 425 million page views to travel.state.gov and 4.5 million calls to the contact center; and

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[32] The US Federal Customer Experience Index, 2016, August 30, 2016

- Department of Interior managed 292 million visits to the national parks with 16.9 million visits to Recreation.gov and nearly 927,000 calls to the Recreation.gov call center.[33]

Moments of Truth

As citizens journey through life and interact with government at pivotal life-events, there are substantial issues and challenges that inhibit government from delivering the seamless, high quality, secure and private services that the public expects.

The Federal Government has a limited, disjointed, and often parochial understanding of how the public wants to interact or receive services. Agencies work in stovepipes within their organizations and between agencies limiting the ability to leverage the limited data we have. There is difficulty in collecting needed information from the public due to the Paperwork Reduction Act (PRA). In addition, as identified by Forrester, agencies do not have the skills needed to analyze data to determine good service delivery.

While previous Administrations have focused on customer service, the focus on customer experience has only begun. Customer experience encompasses the complete journey a citizen takes from needing to solve a problem through a transaction and beyond. In many cases, these moments of truth require multiple agencies to work together, share information, and provide coordinated services to address someone's problem. Small improvements have been made, but more is needed in services that cross agencies and levels of government. McKinsey & Company found that positive customer experience improved customer satisfaction by 20%, lowered cost by 15 to 20%, increased revenue growth by 10 to 15% and improved employee engagement by 20 to 30%. Forrester found that improved CX improves the trust in government and optimism in the future of government.[34]

Regardless of age, race or financial status, citizens and other government customers encounter situations when receiving seamless government services would help solve a problem or simplify their lives at critical times. Something as simple as a change of address can require contacting over 20 separate federal government offices, let alone state and local governments. Veterans may have to call 14 different offices within the VA and then contact the Social Security Administration and the Internal Revenue Service (IRS) to address a single issue.

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[33] Government For The People, Partnership for Public Service, February 2016
[34] McKinsey & Company presentation, 2016

Recommendations

1. Break down barriers to soliciting customer feedback.

Collecting, analyzing, and acting on customer feedback quickly is essential to design and deliver experiences that exceed customer expectations. Yet complying with the Paperwork Reduction Act (PRA) requires agencies to complete an arduous approval process before collecting information from ten or more members of the public. The approval process can take six to nine months. Agencies need better ways to collect input from the public. OMB and Congress need to support current efforts to close the gap between the intent of the PRA and the limitations it imposes on agencies' ability to collect customer feedback on government services.

2. Ensure senior leaders have experience, expertise and are accountable for improving customer experience within their Department or Agency.

Visible senior leadership commitment is vital to improve customer experience. Every executive must model customer-centric behaviors and be held accountable for customer experience in their areas of responsibility. Customer-centricity should be included in the selection criteria for Department Secretaries and other senior officials to ensure that appointees are willing and able to improve their agencies' customer experiences. OPM should update the senior executive service (SES) executive core competencies to include CX and require it in the performance plans for all executives in citizen or business-focused agencies. Performance plans for middle managers and rank and file employees who provide customer services should contain customer experience performance elements. Each agency should develop and execute a plan to improve its employee engagement and customer experience talent. A senior position should be established, in every public facing agency, responsible for coordinating that agency's efforts to improve the customer experience and create a customer-centric culture.

3. Create an independent advisory board that can recommend how the government can improve CX.

The private sector has learned and adapted from lessons learned over the past decade on the importance of CX to their business in terms of revenue and loyalty. The government should leverage these lessons by creating an independent advisory board of luminaries to validate the recommendations within this paper, provide recommendations on areas we may have overlooked, and advise agencies on how to improve their respective customers' experiences. The board should be asked to advise in particular on the top ten highest volume services listed in this paper and how to deliver them in a seamless, integrated, citizen-centric way. To represent all segments of the population, the Advisory Group should be staffed with diversity in mind – diversity of industries, generations, and personal

attributes. The Advisory Group's recommendations should be included in an updated National Strategy for Digital Public Services and Customer Experience.

4. Issue a new Presidential Executive Order on "Delivering an Experience that Exceeds the Public's Expectations" and a national strategy to improve customer experience.

Customer experience must be given priority early in the new Administration. We recommend an updated Executive Order (EO) that includes:

- Defining customer experience versus customer service to ensure that the full spectrum of issues pertaining to CX are considered, including governance, strategy, culture, voice of the customer, and design.
- Creation of a Federal Chief Customer Officer at OMB responsible for establishing and overseeing a Chief Customer Officer Council (CCOC).
- Establishment of a Chief Customer Officer Council that drives the transformation of citizen-centered services across government.

The Administration should develop a National Strategy for how the government with the goal of making the U.S. #1 in the world in delivering services to the public. The strategy should require agencies to implement best practices for governance, processes, measurement strategies, technologies, and transforming to a CX culture. The strategy should also ensure that funding is available to achieve the strategy's goals. The strategy, and agency CX programs, should focus on the top ten highest volume services listed in this paper, at least initially, and on interagency coordination and collaboration to deliver services in a seamless, integrated way from the citizens' perspective. The Federal Chief Customer Officer and the Chief Customer Officer Council should work together on an ongoing basis to implement the strategy both within each agency and between agencies.

5. Create a measurement framework to be used for determining success.

The CCOC should create a measurement framework identifying core measures for all agencies while providing agencies the flexibility needed to address their specific services. The performance management system should be leveraged to ensure that agency programs continually improve the services and experiences they deliver. The CCOC should also create a scorecard that identifies areas for improvement and recommends shared service solutions to reduce costs and improve services. Each agency should identify service improvements for their top services and report to the customer office quarterly. The CCOC should report customer experience improvements to OMB, publish a public dashboard on a regular basis, and publish an annual report on the "State of Delivering Digital Public Services and Customer Experience".

Within 100 days of taking office, each agency head should publish a customer-focused mission statement. They should submit a Customer Experience Plan to the OMB CCO which includes a(n):

- Assessment of the agency's most important internal and external services including strengths, weaknesses, areas of high priority for improvement and actions planned to improve service levels including explicitly addressing interagency coordination and collaboration;
- Description of all service delivery channels (i.e., online, contact centers, in person, social media, etc.) that includes an assessment of which are optimized for mobile access;
- Description of how the agency collects customer feedback on needs and expectations and how they use these insights to improve service delivery;
- Explanation of measures used to assess success in meeting customer expectations; and
- Summary of baseline employee engagement scores for the agency and primary actions to improve the engagement.

The American people deserve the best service and customer experience possible from their government. And it is not just a "feel good" goal. Research shows that positive customer experience not only improves customer satisfaction, it also lowers costs, increases productivity and improves employee engagement. Improving CX can reverse the long term degradation and increase public trust and confidence in government and optimism for the future.

Aligning Federal, State, Local and Tribal Government Services to Citizens

In the United States, all levels of government, including federal, state, local and tribal governments, share responsibilities for serving the citizens and protecting the nation. Many programs require coordination of resources and personnel and integration of services to effectively carry out these responsibilities. But the integration between the services provided to citizens at different levels of government has lagged for many years. While some progress was made in the past, many challenges remain to be addressed. And, new needs have emerged for better coordinated and integrated government services than ever before. This paper identifies specific high priority issues and recommends ways to improve intergovernmental coordination, cooperation, and delivery of services across all levels of government.

Problem and Analysis

Coordination of programs and services across intergovernmental boundaries is complex and challenging. It requires all partners to engage as equals; a clear agreement on objectives, metrics and outcomes, clear assignment of responsibilities, and the effective sharing of relevant, accurate information. Moreover, this challenge pervades many different government programs and is too broad for control and oversight by any single entity.

Public expectations are continually evolving for governments to provide digital services that support everyday life-events such as renewal of driver's licenses, registration for school, or application for benefits. With the advent of online communities, streamlined one-click access to goods, and mobile technology, the nature of service access and consumption has been radically transformed.

> **Absorbing the Complexity of the Government**
>
> A common theme from the National Dialogue for Improving Federal Websites was that the Federal Government needs to change to a culture of **customer service**. A key part of that shift is the need to start absorbing the complexity of the Government on behalf of the citizen. As one participant wrote, "**Customers don't know — and don't care to know** — how government is organized. So why make them go from agency website to agency website to get the full picture of what gov't has to offer on any subject?

Nevertheless, federal, state, local, and tribal governments have made too little progress in providing integrated digital services to their stakeholders. A modern approach is needed to improve business processes, data, and service delivery across levels of government. This will enable all levels of U.S. governments to provide better integrated services strengthen our security, and promote prosperity.

The public continues to wrestle with myriad, disjointed, confusing, and complex government points of service that mirror agencies' internal structural complexities. As a result, citizens and businesses are

forced to seek information and services across hundreds of online resources, resubmit the same information on each application for multiple programs, and endure long wait times to receive services or benefits. In an era of simple, anywhere access to information and one-click, one-day, doorstep delivery of products; governments must do more to deliver services in 21st century ways. In today's fast-moving environment of global travel, health crises, natural disasters, and human events, the integration of analysis and data across government agencies and private organizations is imperative. Better engagement of the public and private industry is needed at all levels of government to identify ways to address their concerns and needs. It is up to government leaders to engage with each other and with the public and private industry to help that engagement happen.

Other countries, including the United Kingdom, Estonia, and Singapore, have established modern, integrated, digital service delivery models that we can learn and benefit from. This approach could improve a wide variety of government programs from homeland security and law enforcement to public health, social services, education, and the environment. From a customer perspective, services would be delivered faster, easier, and better. At the same time, agencies would improve program effectiveness, customer satisfaction, and efficiency.

There are many issues that could benefit from better-integrated government services, but the following issues need to be addressed immediately:

1. National Security/Homeland Security – After the terrorist attacks of 911, laws were passed and efforts were undertaken to improve terrorism information sharing. Federal agencies worked more closely with each other and with state and local law enforcement than before. However, the priority and focus on this issue has faded at the same time terrorists groups have proliferated and new forms of violent extremism have emerged in the homeland. Renewed priority, focus, and progress are needed to effectively address these continually evolving threats.
2. Disaster and Incident Response – Major natural disasters and man-made incidents, like mass shootings, unfold rapidly, involve multiple agencies and levels of government, and affect large numbers of citizens. They pose threats to life, health, and property if not promptly addressed promptly and effectively in well-coordinated ways. Governments at all levels need to redouble their efforts to integrate communications, information systems, and response operations to more effectively respond to these increasing threats.
3. Cybersecurity – Cybersecurity threats are continuously increasing in frequency, severity, and the breadth of organizations and people under attack. Effective and timely sharing of cyber threat information can improve the collective defense and limit the impacts on everyone potentially affected, but only if information is provided in a timely, actionable form. New authorities,

coordination mechanisms, technology tools, and cyber threat intelligence sharing are needed to stem the tide of this assault on our nation's society, economy, and security.

4. Federal Grants – the federal government has levied new requirements on state governments in an effort to improve the administration and systems used to deliver co-funded services. However, the federal government did not provide guidance needed to fulfill those requirements, state governments are very frustrated, and recipients are at risk of delayed receipt or no receipt of their grants. A better, streamlined approach is needed to ensure that federal and state agencies coordinate and transact grants more quickly to deliver grants to the beneficiaries.

Each of these issues has been a priority in the past and some progress has been made. They each potentially affect thousands to millions of citizens in serious ways. They each could benefit from better coordination between the government organizations involved to improve their business processes, technology, information sharing, and service delivery. Rather than continuing to build separate, fragmented services, government services need to be integrated and available across organizational boundaries. Citizens should only have to enter their data once and governments should share it, protect it, and re-use it to deliver services. Different government agencies should be able to work together more quickly and effectively using the shared information, for example when multiple agencies respond to natural disasters. Citizens could be seamlessly transferred from first responders to longer-term assistance programs without filling out more government forms in a time of crisis in their lives. Agencies could enhance their collective effectiveness, for example when defending against cyber threats by sharing threat intelligence. Data and services should be available online for public consumption as self-serve or subscription services.

Recommendations

1. **Establish Coordinating Groups and a Lead Agency or Council**
   Identify the appropriate lead agency or government council to oversee each issue where integration between governments is required. Convene the appropriate stakeholders for each issue to identify problems and develop plans and solutions to address them. This should include representatives of the cognizant federal, state, local, and tribal government agencies, representatives of their respective customer communities, and representatives from academia and the private sector that provide services or have relevant subject matter expertise. All of the participants need to engage in a way that gives everyone a voice, a "seat at the table", influence in the solutions selected, and collective ownership for their outcomes.

2. **Align Policies and Procedures**

   Policies and procedures that affect each of the four issues should be re-evaluated by all of the agencies and levels of government involved. They should be updated, terminated, or replaced as appropriate to align efforts between the various stakeholders to enable implementation of the solutions identified.

3. **Implement the Plans**
   - Require agencies to include federal-state-local-tribal service integration in their respective plans and budgets for inter-governmental programs and report on their progress. Similarly require agencies to update and include effective information sharing approaches in their respective plans and budgets.
   - Establish robust practices and performance measures to plan, manage, and oversee these efforts.
   - Pilot and test new approaches to integrate services using coordinated approaches to funding, staffing and acquisition. Share lessons learned from the pilots to promote additional service integrations.
   - Adopt consistent, modern, citizen-centric "life-events' based approaches and service integration methodologies to redesign business processes, connect systems, share data, and integrate service delivery. A disciplined, structured approach can help identify citizen and business customers agencies have in common, events that drive their need for services, the business processes, systems, and data that service those customers, and develop solutions to deliver seamless, integrated services to those citizens and businesses

Governments today are deeply dependent upon information technology to deliver and manage public services. Through the execution of these recommendations, governments can gain greater insight into the barriers that must be overcome, establish leadership focus upon overcoming those barriers, and execute plans to modernize digital service delivery. These steps will promote integrated delivery that simplifies access to services, improves quality of life, promotes prosperity and commerce, protects and improves citizens and businesses experience with governments, and improves the public's trust.

A 21st Century Approach
To the Cybersecurity Problem

The nation is in a cybersecurity war with attacks that adversely impact all aspects of our personal and professional lives growing in frequency, severity and sophistication. Yet most government agencies remain "behind the curve" in addressing the cyber problem, seemingly unaware that vast vulnerabilities in their infrastructure, promulgated by ineffective policies and practices, are constantly being exploited.

Agencies are waiting for information technology staff to "solve" a cyber-security problem that has moved far beyond their available authorities, technology and funding. Dramatic action is required to shock the federal government out of its "status quo" approach to cybersecurity and force it to deal with the new reality we all face. This new reality demands that we act collectively—leaders, private and public institutions, and citizens— to change our thinking and approaches in the acquisition of technology, governance and workforce. There is no available model, private or public sector, on which to pattern the actions needed in cyber. True leadership is required from government and the new administration.

This new reality of cyber security's impact on the basic underpinnings of the physical security and economic backbone of the country is being felt across all sectors of the economy. Each sector has different challenges that must be addressed. There are pockets of expertise in different market sectors, but processes and overall business schools-of-thought are still in their infancy. The federal government must lead, beginning with implementations within the government itself.

Problem and Analysis

Byzantine Approach to Addressing Cybersecurity. Cybersecurity and its implementation through the acquisition process are inconsistent (and virtually ad hoc) across the federal government. Too many parts of the federal government cling to separate IT infrastructure and acquisition processes that result in a fragmented and uneven patchwork of poorly protected systems which adversaries easily exploit.

Our cultural and economic lives are increasingly propelled by the Internet. Digital flows open up the global economy to anyone with an Internet connection reducing the barriers to entry and changes old rules about how business is done -- and who can participate with estimates that there will be 6.4 billion devices in 2016 growing to 20.8 billion devices by 2020. Overall, the usage of cross-border bandwidth has soared 45-fold since 2005. All flows together have raised global gross domestic product by 10 percent over the past 10 years, worth $7.8 trillion. Data flows alone account for $2.8 trillion of that and more than 900 million people communicate across borders via internet.

Gartner Research

The Incremental Approach to Address Cybersecurity Has Failed. Today's cyber protection environment is characterized by "defense in depth," or layer after layer of marginally effective technologies that are incrementally added to and improved as new threats are discovered. While incrementalism can be effective where deliberate and decisive action is not required, or where time-constraints are not driving imperatives, it does not match the cyber environment. As of September 2015, approximately 43% of firms in the United States had experienced a data breach within the past year,[35] and cyber breaches often go undetected for months (205 days is an industry- government average).[36] Over the last decade, there has been over a 1,000% increase in information security incidents impacting the federal government, exemplified by hackers stealing some 630,000 files from Boeing related to the C-17, the third most expensive plane that the Pentagon ever developed[37]. Clearly, our current approach to cybersecurity, the incremental addition of new technologies, policy and practices aimed at closing known vulnerabilities, does not work.

The cybersecurity problem must be viewed as life, economy, and national security critical. Viewing cyber security as protecting just information technology systems is a serious mistake. These IT systems are fundamental to our economy, our government and our life safety. In 2016, a cyber-attack paralyzed a 434-bed Los Angeles hospital for 10 days forcing the hospital to pay a ransom given the inability of any government agency to successfully intervene – which all played-out on the world stage.[38] Attacking vital assets, including the U.S. power grid, Wall Street, and other industrial control systems is asymmetrical, deniable, and an extremely effective way to attack our nation. It also gets easier every year.

"Doing Anything" is not better than "Doing Nothing." The hard lesson of defending against an insurgency is that, when faced with substantial external pressure, organizational culture typically overrides the ability to accept that current approaches are ineffective. Similarly, the current regulatory approach to counter the cyber threat can easily make matters worse than doing nothing. To date, the network of regulations governing federal cyber approaches has engendered a lethargic and static "compliance culture," where documentation remains more important than implementation. More globally, the free and legal movement of cyber-related technology is critical to maintaining the worldwide economy, but varying laws and management views on cyber activities create a challenging environment for countering cyber.

The future: Cybersecurity and the Internet of Things (IoT). The connected world is moving from the information space into the physical domain as Internet of Things (IoT) devices are being mounted as

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[35] "Is Your Company Ready for a Big Data Breach?" Ponemon Institute, September 2014
[36] ACT-IAC, Ibid.
[37] "*Why China Hacks the World,*" Christian Sience Monitor, January 31, 2016
[38] "California Hospital Makes Rare Admission of Hack, Ransom Payment, Reuters, February 19, 2016

controllers of our vehicles, homes, businesses, medical devices, and personal activities. Gartner estimates that there will be 6.4 billion devices in 2016 growing to 20.8 billion devices by 20203. These agents are becoming ingrained in the everyday fabric of U.S. life. Despite the convenience and innovation experienced from smart devices, the rapid expansion of these devices significantly increases cyber-threats to individuals and organizations, leading to risks to both life and property. The Federal Government needs to rapidly establish the roles, responsibilities, mechanisms and processes for the consumer protection of these devices. The General Accounting Office (GAO) addressed one of the major IoT concerns in their report on Vehicle Cybersecurity released in March 2016. [7] The report details the threat to automotive, and other transportation, assets to cyber attack and recommends the identification of roles and responsibilities with the Government in this area. Further work needs to be performed for building, medical devices, SCADA systems and other critical infrastructure items.

Recommendations

1. **Change the overall cybersecurity approach to a risk based, mission driven methodology.**

- **Direct the head of each Department and Agency to present a plan for continued operations in a cyber-contested environment within 90 days.** Isolated approaches to information security, business continuity, and incident response must be eliminated. Federal agencies must be prepared to operate in an environment where Internet communications are denied to them, and IT systems must be proven secure before they can be trusted. To reflect that reality, OMB should require the head of each agency to prepare and present both their COOP (continuity of operations) and CoG (continuity of government) plan should their ability to access the Internet be denied. Today, the urgency of providing continuously available services for customers and business partners in the digital economy requires that enterprises to become resilient. A resilient enterprise protects itself from attack, but also recognizes that defense is not the end-all. A resilient enterprise needs to connect protection and recovery to the mission and goals of the enterprise, implementing integrated programs in order to provide sustainability of essential services.
- **Appoint "digital leaders" to key federal roles.** It is essential that the new President appoint 21st century leaders that recognize the essential role that technology and cybersecurity play in fostering our continued exponential growth. The new administration should require each new senate-confirmed political appointee to present their experience and position on how they will preserve and protect the digital business capabilities that are driving our nation's economy, making this a key selection criteria for those selected for senior offices. The requisite changes to address cyber begin with the senior most official with the kind of cultural changes that over time become a part of this Agency's DNA and institutional memory.

- **Develop a framework to implement an "Underwriters Laboratory" type of standard to reduce the risks of the "Internet of Things" –** The explosion of Internet-enabled devices changes the risk from just one of information loss to physical harm. Transportation systems, medical devices and even home appliances are at risk. Applying methods that build consumer confidence that these devices are properly secure will be an essential economic driver for decades to come.
- **Establish a dedicated Cybersecurity Innovation Laboratory.** Coordinated, focused research is needed to create 21st century solutions with 21st century processes. Big data analytics, machine artifical intelligence, and advanced techniques are needed to remove the human from the equation. Rather than pursuing fragmented, uncoordinated efforts in multiple agencies, establish an interagency venue to coordinate research, pool reosurces, and share solutions. Agencies could share expertise, test solutions, and maintain and extend the expertise and skills of their workforce.

2. **Change the federal governance and acquisition landscape.**

Direct All Departments and Agencies to:

- **Require all contracts, not just IT contracts, to include cybersecurity as evaluation criteria**. Grass-root change involves a paradigm-shift across all spending necessitating extra-ordinary inter-agency cooperation, dialogue and progress. Cybersecurity is not a problem in the IT department, rather it increasingly depends upon the products of the business focused on "ends" (what is the organization trying to accomplish), "ways" (how is the organization going to go about doing that), and "means" (what are the resources and tools to accomplish that end in a cyber-contested environment).
- **Implement a Cybersecurity Investment Management Board**. An effective cybersecurity program begins with direct and continual leadership involvement involving the senior most officials in baselining performance gaps, aligning resources with highest priority gaps and greatest risks. This includes establishing an orderly process for determining and approving requirements that is linked to a well-defined, repeatable, transparent and disciplined process for developing capabilities, allocating resources, promoting interoperability, sharing innovation, and avoiding unproductive duplication.
- **The head of each Agency or Department should be granted non-delegatable authority to be exempted from mandatory use of the Federal Acquisition Regulation during cyber-attacks.** While exceptions from using the FAR should only occur during unusual and extreme situations, the "beltway" culture re-enforces the status quo culture with broad views that any exception is controversial, dubious benefit and a series potential of unintended consequences. There is an overwhelming need to send a signal to Federal Agencies that its not business as usual when addressing cyber. Adoption of bold new approaches focused on incentives, including nontraditional approaches, is urgently needed to respond to numerous cyber crises.

3. **Recognize that Cyber-attacks know no international boundaries.**

- **Within 180 Days, establish new policy for international collaboration on cybersecurity.** The European Court decision on Safe Harbor has created a chasm between the United States and other nations threatening the future economic viability of the internet. A foreign policy speech by the new administration is needed to galvanize international partnership in addressing the cyber problem and to counter-balance the damage inflicted by the European Court ruling to invalidate the Safe Harbor framework by deciding the "indiscriminate" surveillance by the United States government endangers protection by placing "national security, public interest, or law enforcement requirements" over privacy principles. Now, American technology companies are burdened with added rules to comply directly with foreign government requests for data that threatens the ability of American firms to move their data between Europe and America.

4. **Use existing hiring authorities to improve hiring for mission critical occupations .**

- **Change the hiring process to recognize that one strong cybersecurity hire beats ten average ones.** The tools and processes used by our adversaries are designed to empower smart individuals to do great damage. In the cyber world, more people does not necessarily mean better results. What is needed are great people, and hiring policies, both in government and its contractors, should reflect this.
- **Expand cybersecurity workforce awareness, education, and recruitment efforts nationwide.** Unlike past hiring issues for the government, cybersecurity is not an inherently governmental problem that can be addressed by the federal government alone. Every organization, both federal and commercial, faces the threat. Training, recruiting and employing staff needs to be emboldened across all regions of the country. Work closely with colleges at all levels, in all states, to promote cyber education and hiring.
- **Create a "Reserve Officers Training Corp" for cybersecurity.** The Reserve Officer Training Corps model provides a formal high school and college technical education model for new hires, or existing employees. Provide financial incentives, a binding contract, and assured employment upon graduation to attract and retain more highly qualified cybersecurity workers.
- **Redirect federal agency training programs to focus on skills-based and performance-based cybersecurity training.**   Provide cybersecurity awareness training and practice, appropriately tailored to leadership, management, and staff roles, to enable all employees to have basic cybersecurity awareness, skills, and understanding of how to recognize and report cybersecurity threats, vulnerabilities, and incidents

5. **Address Internet of Things (IoT) safety and standardization.**

- **Within 60 days, direct DHS, DOT and FTC to begin implementation of the GAO report on automotive safety.** The report provides strong evidence why beginning immediately on this effort is critical because of the lead time for implementation in the transportation industry.
- **Within 100 days, direct FTC to establish an office for the coordination of IoT safety and security standards.** The FTC needs to work with commercial groups, such as UL, to instill confidence in the consumer purchase of IoT devices and to stem the flow of highly risky and insecure foreign products.
- **Within 180 days, conduct studies on the safety of medical devices and buildings.** Conduct similar research similar to the study of automobiles on other highly critical and widely used devices that affect daily safety and security of citizen lives**.**

Making Innovation a Persistent Capability in Government

Innovation that leverages new technologies has transformed the private sector but the government has largely failed to take advantage of this business transformation and technology revolution. Most federal agencies have changed very little in how they do work or provide services to citizens, businesses, and other governments. This lack of change results from laws, policies, processes, and cultures that inhibit innovation and resist change. The next Administration has the opportunity to make government work better, faster, and cheaper by making innovation a persistent capability embedded in the government's culture.

Problem and Analysis

Examples abound in the private sector of the development and adoption of new technologies in concert with new business models to transform whole sectors of our economy. From banking to retail sales, transportation, health, and entertainment industries, to name just a few; citizens can use online, digital services and mobile technology in their daily lives in ways that were not possible just a few years ago. However, with a few exceptions, most federal government programs have not kept pace with or taken advantage of these new capabilities.

Government programs are often innovative when they are created. Government innovation is most obvious when new programs are created and when government leads new research and development. Existing programs also innovate, typically adding gain or reducing pain in customers lives by degrees. And, the government is often motivated to innovate in response to crises or external events. The best government innovation uses technology to create new public value and improved services and business models and to support agency missions.

Once programs are established, attention shifts to operations, enforcement of policies and procedures, and efficiency. As programs mature, they focus less on developing new capabilities and more on delivering current capabilities. Programs standardize operations and automate work to deliver consistently, reliably, and efficiently. The shift to efficiency is normal and desirable, but it often comes at the expense of innovation. Programs atrophy over time and change is resisted at every level of government. While agencies lock-in routine program operations, the world around them and citizens' lives and expectations constantly change. New customers enter programs. New needs arise as old needs diminish. New technologies emerge that provide new capabilities and business models never before possible. The benefits of innovation are rarely achieved solely through the pursuit of the latest "shiny technology". Real changes in business processes are necessary, in concert with new technologies,

to realize potential exponential improvements and benefits that innovation can provide. And therein lies the rub. Government planning, budgeting, acquisition, and human resource processes are so slow and burdensome, they impede timely innovation. Risk averse "don't rock the boat" culture and the "gotcha" mentality in oversight programs create huge disincentives to innovation. To this perfect storm of barriers and constraints, today's most pressing public policy issues cross organizational and programmatic lines, further complicating the challenges to delivering more agile, innovative, coordinated responses. Current programs are at risk of becoming obsolete as public needs and expectations change. Many programs are under increasing pressures to do more with declining resources. Rather than developing innovative solutions to address these challenges, the government has created a culture of acceptance. People do the best they can with what they've got.

Please note that this paper does not focus on technology. Technology will certainly play a role in innovation. But the potential value of technology will be seriously limited by organizational, structural, and cultural barriers and norms. These barriers must be addressed for the government to make innovation a persistent capability embedded in its culture and deliver new and better programs and meet citizens' expectations on a continuing basis

The federal government has taken innovative actions with limited and occasional success. Continuing to fight the innovation battle one program at a time will continue to frustrate lawmakers, citizens and government stakeholders with the slow pace and limited scale of success. The government should not continue to limit innovation to a single agency, single program, or single project at a time.   We need to increase efforts to improve the government more broadly and continuously. New agency leaders and executives need to clearly articulate the expectation that both operational and innovation excellence are valued and expected and hold everyone who works for them accountable for achieving those goals. The federal government must establish the ability to continuously innovate as a persistent, widespread capability embedded in its culture.

Recommendations

The new Administration can make the federal government more innovative by:
1) **Establishing an Innovative Culture and Persistent Capabilities in Government as a Policy Priority Early in the Administration**
    - Issue policy that establishes innovation as a policy priority for all departments and agencies,
    - Identify the agency head or deputy as the responsible senior official in each agency, further delegation would diminish the importance and effectiveness of this policy,

- Identify the President's Management Council as the senior governance body to oversee implementation of this policy, and
- Require agencies to develop plans, procedures, and budgets to integrate innovation into their programs, in balance with operational efficiency and effectiveness, and to measure and report their progress.

2) **Reducing Legislative Burdens and Transform Oversight**
- The Administration should work with the Congress to identify and reduce, mitigate, or eliminate impediments to innovation in existing law.
- The President's Management Council should work with agencies to identify existing regulations and policies that impede innovation and develop ways to reduce, mitigate, or eliminate those barriers.
- The President's Management Council should with the Congress, GAO, and the IG community to develop new approaches to program oversight that value, enable, and measure the effectiveness of innovation programs and investments.

3) **Enabling Implementation of Policy and Plans**
   a. Human Resources - Make innovation and its support the responsibility of every position in the department. Communicate this in every job description and performance review. Make this a significant consideration for promotions. For example, change promotion on the basis of tenure to promotion based on innovative creation of value and results. Make it faster and easier to hire great talent and remove staff that obstruct innovation and resist change.
   b. Budget and Finance – Realign existing resources to support and promote innovation while building needed resources into future budgets. Allocate funds specifically for innovative ideas and projects that agency staff can access. Innovation investments should demonstrably support an innovation strategy, and innovation strategies should demonstrably support program and agency business objectives. Failure to demonstrate alignment and show progress against relevant measures of effectiveness should be grounds for withholding or reducing investments. Strategy development should take a multi-stakeholder approach to include state, local and tribal governments, public-private partnerships, and citizens as appropriate.
   c. Acquisition - Acquisition strategies should support innovation investments by promoting competition for program efficiency and effectiveness. Departments and agencies should assess current programs and solicit products and services which build efficiency and innovation capabilities. They should fund and manage pilot projects and experiments to test and validate approaches to innovation before expanding to agency-wide or government-wide levels. They should contract with companies that have proven ability to develop and implement innovations

d. Encourage Innovation- Create a reward and recognition program that reinforces the value and priority of innovation. Actively encourage and recognize appropriate risk taking and risk management that leads to better results. Engage programs, strategic communications and leadership of every component to assess, incorporate into operations, publicize, recognize and promote the best innovation efforts. Provide training and tools to staff to support their innovation efforts. Establish communities of innovators, within and between agencies and in public-private partnerships, to share knowledge, experience, and effective practices. Make the awards and recognition for valuable innovations among the most prestigious in each department and agency.

Conclusion

The next Administration faces great opportunities and challenges to move our nation forward. American citizens expect and deserve a government that fulfills its myriad missions in an efficient and effective way. This report identifies seven topics that are important to the success of government programs and provides recommendations on how to improve in each of those areas. If those recommendations are acted upon early in the next Administration, we believe they could materially improve the efficiency and effectiveness of federal government's programs and services to citizens.