

IBM Center for
The Business of Government

Special Report Series

Fast Government

Accelerating Service Quality While Reducing Cost and Time



Edited by
Charles L. Prow

Contributors

Earl Devaney • Mark A. Forman • Tom Glisson • Elaine C. Kamarck • C. Morgan Kinghorn, Jr. • Nicole Lazzaro
Robert Luby • Nitin Pradhan • Franklin S. Reeder • Robert Shea • Tom Suder • Irving Wladawsky-Berger

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Foreword

On behalf of the IBM Center for The Business of Government, we are pleased to present this report, *Fast Government: Accelerating Service Quality While Reducing Cost and Time*, edited by Charles Prow.

This report is a follow-on to a 2012 book edited by Mr. Prow, *Governing to Win: Enhancing National Competitiveness Through New Policy and Operating Approaches*, in which he introduced the concept of fast government as a key to increasing the mission value of government organizations. Through fast government, public-sector leaders make *time* a key performance metric in government efficiency and effectiveness initiatives—time saved by streamlining operations, improving the quality of government services, and reducing barriers to citizen engagement.

Fast Government includes 11 essays by experts in the field. The report is divided into two parts. Part One presents strategies to lay a foundation for a fast government. Part Two presents five key tools that can be used in moving to fast government, including gaming technologies, mobile technologies, supply chains, predictive analytics, and a No Wrong Door approach to speeding government. We hope that this report will be helpful and informative to leaders in achieving a more efficient and effective government.

This report is one of several new IBM Center publications being issued at the start of the second term of the Obama administration. The goal of these publications is to assist government leaders and managers as they continue to improve the efficiency, effectiveness, and speed of government. A revised edition of *The Operators Manual for the New Administration* is now available on the Center's website (www.businessofgovernment.org). Rowman & Littlefield Publishers have released the 2013 edition of *Getting It Done: A Guide for Government Executives*. In addition, the Fall/Winter 2012 edition of *The Business of Government* contains a Forum on "Governing in the Next Four Years" (also available on the Center's website).

Together with *Fast Government*, we hope that the above resources will help government executives and stakeholders work together toward a broad range of outcomes over the next four years.



A handwritten signature in dark ink, appearing to read 'D J Chenok', written in a cursive style.

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Introduction

By Charles L. Prow

What is the value of time? Is it measured in cost, in service levels, in quality? If a government agency could reduce claims processing time from over 300 days to less than 60 days, what would that be worth to the agency and those whom it serves? If a police force could provide officers with real-time information on crime incidents and suspects, what would that be worth? If an organization could save 10 percent annually by moving to a smarter, faster supply chain, would it be worth it? If an agency could dramatically reduce its collections department by using predictive analytics to identify improper payments before they were dispersed, what would that be worth? In fact, accelerating business processes is arguably the single largest driver of improved mission effectiveness in most government missions.



Charles Prow

We see the value of time every day—in claims processing times, supply chains, lag-times from intelligence collection to analysis to action. In each of these cases, long cycle times mean higher costs, lower service levels, and diminished mission effectiveness. Making government work faster enhances mission effectiveness, improves service levels, and reduces costs. That simple but powerful premise is at the heart of *Fast Government*.

Fast Government was born from conversations with hundreds of government leaders following the publication of *Governing to Win* in 2012. The thread that ran through all of these conversations was the enormous value that the element of time represented. Speed, agility, real-time, rapid response—what all of these have in common is the relationship of time to mission effectiveness and value. *Governing to Win* set out to explore how our national competitiveness is directly related to how we improve the missions that are provided by government, while also reducing the overall cost of government.

Government organizations—and their people—are really driven by the value of the mission they support. What government leaders, and firms that serve government clients, really focus on are mission effectiveness and value. In *Governing to Win*, we introduced the concept that for government, mission effectiveness can be equated with value. This allows us to begin to measure value in such a way that it will start to inform and shape the

activities within agencies. In *Governing to Win*, value is illustrated through a simple equation:

$$\text{Mission Value} = \frac{(\text{Quality} \times \text{Service})}{(\text{Cost} \times \text{Time})}.$$

This value equation provides a clear definition of what generates value and what drives mission effectiveness.

After *Governing to Win* was published, we met with hundreds of government leaders and it became clear that the dimension of time in the value equation really resonated. Government is comprised of thousands and thousands of white-collar process bottlenecks and logistical bottlenecks that oftentimes trap good people in bad systems. So reducing time almost invariably results in higher service levels and lower cost points. It also improves employee satisfaction and commitment to mission. We decided to further investigate the role of time in the value equation, and that is where the idea for *Fast Government* originated.

We see the value of time every day—in claims processing times, supply chains, lag-times from intelligence collection to analysis to action... Making government work faster enhances mission effectiveness, improves service levels, and reduces costs.

What is Fast Government?

Fast Government examines the role of time in the mission value equation, and will focus on process innovation, disruptive technologies, predictive analytics, and other ways that leaders can make government processes work faster. Public-sector agencies can begin to fundamentally transform their processes through a focus on cycle time reduction and elimination of non-value added activities.

By fast, we mean:

- Making time a key performance metric in government efficiency and effectiveness initiatives
- Using technology and leveraging innovation to automate repetitive tasks
- Accelerating the delivery of government goods and services through process innovation that redesigns business processes to require fewer steps (such as moving from 10 signatures to three)
- Finding new ways to perform a given set of tasks more quickly (such as through the use of Lean Six Sigma where you can move from an assembly-line approach to a parallel process)
- Creating interactive services for citizens so they can solve their own problems, rather than having to ask the government for information and help (such as creating a nutrition website rather than sending out physical signs to be posted in school cafeterias)
- Using predictive analytics to reduce or eliminate entire processes (such as preventing improper payments from being made, thus reducing the need for resources to investigate and reclaim payments)

Moving to Fast Government

Unfortunately, there is no silver bullet to unlocking the value of time. The tools at our disposal to reduce cycle times will be familiar to any student of government transformation efforts over the past several decades. At the heart of any effort to make government work faster will be a focus on three variables:

- People
- Process
- Technology

What *is* different is that government leaders can now make the decision to explicitly focus on *time* as one of the key outcomes for improvement and transformation initiatives. Making the element of time part of the success criteria for initiatives sends a clear signal to agencies and departments.

Leaders should pay particular attention to the people aspect of initiatives to improve operations and reduce cycle times. People make government processes run. The most amazing technology in the world will not reduce cycle times and improve performance if the people who manage and support the processes imbedded in the technology do not know how to use the new systems or do not support their adoption. Stories are legion about employees who created manual workarounds rather than adopt new technologies—and about improvement initiatives that failed to deliver the predicted results because of resistance by employees.

So one of the key elements in implementing fast government approaches is ensuring employees are provided the skills and capabilities to succeed. But this is not enough. There must also be invested in understanding the “bigger picture.” Government leaders must not only take an enterprise view for themselves, so they can see processes from end-to-end from the perspective of time and value, but also share this with employees so they too can see how their team contributes or connects to the efforts of others.

There are great examples of the power of fast government inside the processes of the federal government in areas such as claims and payment, supply chain, and emergency/disaster response. There are also great examples in the commercial sectors. What the best practices, gleaned from these public- and private-sector examples of organizational processes, share is that they provide clear lessons in how to increase mission effectiveness at a lower price point by making the variable of time the central governing factor in that transformational activity.

Of course, a key enabler to effective processes is the use of technology. When used appropriately, it can streamline operations and allow employees to shift from a focus on transactional processes to strategic insight and customer service. It can also be used strategically to analyze service patterns to identify wasteful processes that can be streamlined and reduce time and costs, such as in grant application processes. Increasingly, analytics are being used in government agencies to predict and prevent problems that can lead to costly wastes of time, as well, such as identifying improper payments in advance of making the payment and stopping them.

Time is an often overlooked variable in the value equation, but as the report contributors discuss, by focusing on making government work faster, whether by redesigning processes, adopting new technology, or moving to embrace innovation and risk-taking, public-sector leaders can improve services and reduce costs. Drawing on the experiences of a diverse group of authors, from private-sector pioneers to career public servants, *Fast Government* provides real-world examples of how a focus on speed can transform government.

The report is divided into two parts:

- Developing 21st Century Strategies for Fast Government
- Using 21st Century Tools to Deliver Fast Government

Developing 21st Century Strategies for Fast Government

Part One provides strategies that can be used to transition to Fast Government. Irving Wladawsky-Berger kicks off *Fast Government* with a look at the changing structure of the American economy and the need for government to both become more efficient and to redesign public services. Nitin Pradhan writes about the importance of the federal government's role in investing in transformative technologies that will speed services. Morgan Kinghorn provides advice on how to succeed in government using four key steps to institutionalize accountability for speed in government. Mark Forman provides an interesting and helpful model for assessing the impact of 21st century information tools to streamline the operating processes of government in order to speed it up and make government more responsive to citizens.

The final two chapters in Part I present additional strategies that discuss overcoming the historical obstacles to implementing fast government. Frank Reeder looks at the need to tackle security and privacy issues in order for fast government to become reality. Robert Shea discusses barriers to innovation, speed, and performance and presents six conditions that can enhance speed. We can all recite a laundry list of good ideas and initiatives that were introduced, touted, and then faded away. Shea brings his own deep experience to bear on the subject of how to "make it stick."

Using 21st Century Tools to Deliver Fast Government

Part Two presents 21st century tools that can be used to deliver fast government. These tools demonstrate the power of disruptive innovation to radically change government. The use of gaming and mobile technologies provides rich real-life examples from the authors as they explain how leaders can leverage disruptive technology and disruptive operating models in the public sector. In designing fast government, government leaders should focus on changing people, changing process, and changing technology. Designs that harness all three elements will make the deepest and most lasting changes and provide the greatest benefits.

Chapter Seven by Nicole Lazzaro discusses the use of gaming as a new approach to delivering public services in a fast, effective manner. Given the rise in the use of gaming by a new generation of citizens, the use of a gaming approach to public services is now receiving increased attention. Just as the use of games has arisen rapidly over the past decade, the use of mobile devices has become the most quickly adapted technology in the history of the nation. In Chapter Eight, Tom Suder explores the challenge to government in using mobile technology to provide fast government to citizens.

Chapter Nine discusses an important tool that holds the promise of dramatically increasing the speed of government while reducing costs. It is now commonly accepted that one of the major cost areas for any organization, and particularly for organizations like the military, is the supply chain. Robert Luby and Lieutenant General Tom Glisson (U.S. Army Ret.) examine modern supply chains and how the application of smarter technologies can make supply chains more resilient and more responsive.

While different from supply chain tools, another tool receiving increased attention is predictive analytics. This tool played a central role in the ability of the Obama administration to administer the American Recovery and Reinvestment Act with extraordinarily low levels of waste and fraud. In Chapter 10, Earl Devaney, the former chair of the Recovery Accountability and Transparency Board, provides his firsthand experience on the use of predictive analytics to identify potential improper payments and effectively eliminate waste and fraud from Recovery Act stimulus spending.

The final chapter in Part Two is by Elaine Kamarck. Based on her experience as one of the leaders of the Clinton administration's National Performance Review, she discusses the evolution of the federal government in its movement toward an increased emphasis on customer service and attempts to provide one-stop shopping for citizens via the creation of cross-agency web portals. The next step, writes Kamarck, is overcoming barriers to the integration of federal, state, and local government services in order to speed up the delivery of government programs to citizens.

Moving Toward Fast Government

Achieving durable and lasting improvements in any organization, public or private, is one of the biggest challenges that leaders face. What stands between individual examples of excellence and widespread performance improvements are better governance and the application of the management discipline. Focusing on governance will allow best practices to be more broadly and more quickly adopted, which in turn will allow the government to operate more systemically. Right now, there are numerous case studies describing how government is operating much more effectively. There are also case studies on the application of commercial capabilities to government. But how do you take those great examples and scale them in a way that will systematically change the cost structure of the federal government and do so without compromising mission effectiveness? That is the challenge we face today, and one that we explore in *Fast Government*.

Fast Government brings fresh insights and illuminating examples on how public-sector leaders, by focusing on time and speed, can deliver real and lasting benefits to our nation through increased mission effectiveness and lower costs. I hope you will gain as much as I did from reading the work of all the fine contributors. As you read the chapters, I encourage you to think back to the question I posed at the beginning of the Introduction, "What is the value of time?" and to consider how doing things faster (applications, business processes, approvals, etc.) could unlock value for your organization. How can the ideas within the book help you make a fast government?

Charles L. Prow is the IBM Managing Partner responsible for the Global Business Services' (GBS) North America Consulting Services and Global Public Sector. Mr. Prow is responsible for managing all aspects of our North America Consulting Services business which includes US Commercial, US Public Sector, and Canada.

PART ONE

Developing 21st Century Strategies for Fast Government



1. How Can Government Move Into the 21st Century to Become Better, Faster, and Cheaper?

By Irving Wladawsky-Berger

Introduction

Most everyone agrees that economies and societies around the world are going through historic structural changes, driven by a number of powerful forces including digital technologies and globalization. Over the past two decades, companies—especially large, global companies—have been going through major transformations to help them adapt to these structural changes. In particular, they have embraced digital technologies to improve their productivity while leveraging globalization to better manage their supply chains and reduce their costs.

Just in the last few years, we have seen the explosive growth of innovation that can disrupt old ways of doing business to improve performance and reduce the time involved in operations—smart mobile devices, cloud services and apps, broadband wireless networks, Big Data, and analytics. Companies and individuals have essentially transitioned from the connected, PC-based, static world of 10 years ago to a hyperconnected, increasingly smart, real-time world today that is better, faster, and cheaper.

Changing Structure of the American Economy

Over this same time period, government is viewed as lagging behind the private sector in improving its productivity and reducing its costs. In a study, *The Evolving Structure of the American Economy and the Employment Challenge*, published by the Council on Foreign Relations in March of 2011, Michael Spence and Sandile Hlatshwayo examine the changing structure of the United States economy over the past two decades.

Their study divides the economy into two distinct sectors:

- Tradable, which includes mostly private sector industries. The tradable sector is the part of the economy most exposed to global competition from foreign companies and suppliers. It includes most manufacturing, agricultural, mineral, and energy products, and more recently, many business and financial services.
- Nontradable, which includes much of government and a number of government-related industries. The nontradable sector is the part of the economy that must be produced and consumed locally, including government services, health care, education, transportation, construction, retail stores, restaurants, and hotels.

In summary, the tradable sector—which includes most private-sector jobs—significantly improved its value added per employee (a measure of labor productivity), but had negligible incremental employment, primarily because fewer workers are needed to do the same job as a result of the major increase in technology-based productivity, and because a number of jobs have moved to countries with lower labor costs. The nontradable sector—including government and government-related jobs in industries like health care and education—had virtually all the job growth during this period, but significantly lower productivity. While the specific

numbers have changed since 2008 given the impact of the financial crisis and subsequent global recession, the overall conclusions remain similar.

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Uncertain Future for Advanced Economies

The continuing growth of government in advanced economies, such as the United States and Western Europe, is no longer sustainable given their aging populations and slow economic growth, says *The Economist* in a special report on *The Future of the State* published in March of 2011.

According to *The Economist*, these governments must address two major structural issues: they must become more efficient and they must seriously tackle the growing role of government. Productivity and redesigning services have been key business objectives over the past 20 years. Could some of the practices that have worked well in the private sector be applied to government?

This question was addressed in a report released in October of 2010 by the Technology CEO Council, *One Trillion Reasons: How Commercial Best Practices to Maximize Productivity Can Save Taxpayer Money and Enhance Government Services*. The report identified a set of recommendations aimed at reducing United States government spending by one trillion dollars over the next decade by restructuring how government does its work, without reducing government services or benefits to the public. The Council stated that its recommendations are actionable, proven ways of improving the overall efficiency of government based on real-world expertise, information technologies, and organizational practices that are already being successfully applied in the private sector.

The Technology CEO Council report states:

Our government has an opportunity to dramatically reduce spending and cut the deficit, while also improving its level of service to citizens. By harnessing major technological shifts and adopting best business practices, we can not only make our government far more productive, but also foster greater innovation in areas ranging from healthcare to education and energy—innovation that will generate economic growth and job creation.

We have seen this repeatedly over the past several decades in the technology industry, and in the impact of new technology models across our economy and society. Again and again, new capabilities have simultaneously reduced costs and sparked innovation.

Given the inherent differences between business and government, it is reasonable to question the extent to which good ideas and best practices from the private sector can be applied to the public sector. After all, there is a huge difference between the key objectives of business—

e.g., managing revenues and profits, and acquiring and retaining customers—and those of democratic governments, where the quality of life of its citizens, so well embodied in the phrase “life, liberty, and the pursuit of happiness,” is among its top objectives.

Opportunities for Government to Become More Efficient

While there are differences, there are also many similarities between government and business. Large government institutions and large companies are both complex organizations employing many people and providing a wide variety of services to their citizens and clients, respectively. Both operate in increasingly fast-changing, complex, unpredictable environments. Both have access to innovative technologies and management practices that can be of significant help in dealing with their complex operations. And regardless of whether they are dealing with citizens or clients, both can significantly benefit from running more efficient, collaborative organizations.

The Foundations of Efficiency: Learning to Do More with Less is the New Normal in Government, a global study published in January of 2012 as part of IBM's Smarter Government initiative, identified major opportunities where technology and innovation can help government agencies save time in performing transactions that support their mission, reduce their operating costs, redesign their service delivery models and improve their overall performance. These opportunities include:

- Significant savings (often in the 20–30 percent range) are possible by employing proven methods to consolidate IT infrastructures. For example, a South Korean government agency consolidated its IT infrastructure from 4,600 servers down to 43, reducing server management costs by \$3 million per year and energy consumption by 90 percent.
- Cloud-based shared services in a number of areas, including IT, finance, legal, HR, and procurement, represent another major opportunity with the potential to generate 20–30 percent savings and improve the efficiency of business processes. County governments in southwest England have saved \$100 million and improved overall customer service by consolidating their procurement, back-office processing, and service delivery for citizens.
- The use of advanced analytics to maximize resource utilization represents another opportunity for savings and productivity improvements. The Government Accountability Office estimates that the U.S. government lost \$98 billion in fiscal year 2009 as a result of improper payments. Alameda County, California, has been using advanced analytics to reduce improper payments by 15 to 20 percent. The county's social services agency has generated considerable savings and improved the delivery of its services by implementing an integrated reporting system that reduced improper payments and provided caseworkers with more timely and accurate information.
- Shifting government processes to a Web-based electronic self-service model can significantly reduce costs, as well as improve the overall citizen experience. For example, a national tax agency in Latin America increased tax collections by eight percent and reduced collection costs by 10 percent by switching from its previous manual to an online tax collection process.

Opportunities for Government to Redesign Public Services

Making government more efficient is absolutely necessary, but far from sufficient. The second major structural change is the need for government to rethink how public services are delivered and the roles of the public and private sectors in doing so. And it must do so while balancing government's responsibility to improve the quality of life of its citizens, while at the same time becoming more productive and reducing its overall costs.

What services should government continue to provide, and how? What is the role of the private and non-profit sectors? What is the responsibility of individuals and families? How do you decide which programs to transform, reduce, or eliminate altogether?

These are extremely hard questions. They are at the root of many of the ideological debates taking place in the United States and other countries around the world. Hard as it is, we must try to have rational, information-based discussions that will hopefully help us find the right balance between quality of life, affordability, and efficiency. Major issues facing the public sector include:

- Health care costs have to be brought significantly down by reducing waste and unnecessary expensive procedures, especially those at the end of life.
- Programs that serve retirees and beneficiaries of pensions need to be adjusted to account for our longer life expectancies and longer work lives.
- A good education must be available and affordable at all levels, given the very strong correlation between high educational attainment and low unemployment rates.
- Good physical and digital infrastructures are very important for economic success.

There are an increasing number of examples where government is now redesigning the delivery of public services to become better, faster, cheaper. For example, New York City has developed a new health and human services (HHS) website. With more than eight million residents, New York City has an extremely large job to do in providing health and human services benefits. Along with the difficulties of serving an immensely diverse population, the city has struggled with the internal roadblocks inherent in government. With ACCESS NYC, a new HHS Web portal, NYC residents can easily check their eligibility for 35 city, state, and federal human service benefit programs. It also lets citizens create an account, apply for programs and manage their own cases online. And ACCESS NYC is designed to reach New York's diverse population by providing information in seven languages: English, Spanish, Chinese, Russian, Korean, Arabic, and Haitian Creole.

One Million Healthy Children (1MHC), an initiative recently launched by Georgia Tech and other Atlanta institutions, addresses some of the most challenging and debilitating pediatric health care challenges with its initial focus on children suffering from diabetes, asthma, and autism. The project models economic, incentive, treatment, disease, and other factors that affect health care decisions to find practices and policies that will shift the focus of pediatric care from disease treatment to long-term wellness and disease prevention.

In Dubuque, Iowa, the city is driving economic growth by becoming a global leader in sustainability. By deploying advanced technologies, Dubuque households have access to real-time data that enable them to make smarter decisions on their use of electricity, water, and other resources. In addition, the city of Dubuque receives anonymous aggregated data to help it address the ever-increasing demands of cities to deliver vital services such as energy, water management, and transportation—all while reducing the community's impact on the environment. In 2008, Dubuque was named one of the most livable small cities by the United States Conference of Mayors, and in 2010 it was named one of the nation's best small cities in which to raise a family by *Forbes* magazine.

Conclusion

Making government faster and less bureaucratic will require innovations at least as disruptive and profound as those embraced by the private sector. There are no one-size-fits-all solutions for government innovation and reform, any more than there have been for business transformation.

Different nations will make different choices. And in large, diverse societies like the United States, it is quite likely that different states, regions, and cities will come up with different approaches that best fit their respective constituencies.

Clearly, government and business have different objectives and operate by different rules. Most companies had to go through considerable turmoil and pain to adjust to the powerful forces restructuring our global economies. Those that didn't did not survive or are shadows of their former selves. But, there is a huge difference between failed companies and failed communities, cities, or countries. Clients can easily find other companies. This is not the case with citizens who cannot "shop" around for other governments.

As governments are now addressing some of these same powerful forces, they are going through even more turmoil and pain. It will take all our creativity, innovation, and strength to help our governments and societies adjust to the new realities of the 21st century to become better, faster, and cheaper.

***Irving Wladawsky-Berger** retired from IBM in 2007 after 37 years with the company. He is currently Strategic Advisor on digital strategy at Citigroup, Visiting Lecturer at MIT's Sloan School of Management, Executive-in-Residence at NYU's Center for Urban Science and Progress, and Adjunct Professor at the Imperial College Business School.*



2. Transforming How Government Invests and Innovates in Technology to Drive Results and Speed Change

By Nitin Pradhan

Introduction

As the pace of economic and technological change continues to accelerate, there is no question that government must transform to keep pace. Current governmental structures, however, are still rooted in a world that existed decades ago—a world in which the Internet, mobile computing, and “big data” could not be contemplated, much less leveraged to make the public sector more efficient and effective. A review of several key elements of this infrastructure points to several actions that leaders across the branches of government can take to facilitate and leverage the benefits of smarter innovation and investment. This chapter shows how such actions would help the government move at the speed of change.

Public-Private Innovation Brings Opportunities

The United States technology industry sector continues to grow at about twice the rate of the normal U.S. gross domestic product. It is clear that if the U.S. is to continue to lead the world, then technology will be the driving force behind it. So what role does the government have to play in this new, fast-paced tech economy? The answer is clear: to continue nurturing bold technology initiatives that have the potential to maximize public value and private sector growth.

“Public value” is the delivery of high-quality, results-based services that drive citizen satisfaction and build trust in public organizations and enterprises. “Private growth” is the increased generation of revenue, profits, and intrinsic value of portfolio companies.¹ So is the U.S. federal government well positioned to accomplish this role effectively? Not exactly. Winning through the use of technology will require bold visions, holistic implementation strategies, new and improved governance structures, and innovative, agile, and flexible approaches for the public and private sector to collaborate, innovate, and drive results.

Bold visions are within the reach of the federal government, but holistic implementation strategies, end-to-end governance, and public-private innovation can be improved. The federal support for technology-driven initiatives including how problems are identified, budgets formulated and approved, acquisitions planned and managed, programs and projects executed, and how the subsequent operations and modernization is conducted is fundamentally inefficient, perhaps even flawed. The current “system” encourages fragmented problem definition resulting in point solutions that deliver inadequate value and are later cumbersome to integrate, consolidate, grow or retire, and create new vectors for security risk and ongoing maintenance. This fragmented approach must change.

Further, opportunities for dynamic public-private innovation to drive and accelerate bold technology initiatives are now limited. These governance and collaboration gaps do not allow efficient

1. Launch Dream, LLC, <http://www.publicprivateinnovations.com/our-champion/>

delivery of public value through private growth at lowest taxpayer cost. Major transformations are required for the U.S. government to keep winning through technology in this hypercompetitive world. This chapter presents three guiding principles and three recommendations for achieving rapid progress.

Innovation Equals Growth

Governments, businesses, and citizens are now all under intense pressure to do significantly more with much less. With good reason, all industrial sectors are now looking to technology for increased efficiency and effectiveness. To better understand the impact of technology on growth, it is instructive to look at the two recent examples of technology that stimulated social and economic development: the Internet and the Human Genome Project.

According to the Boston Consulting Group's recently published report, "The Internet Economy in the G-20," part of its Connected World series,² "By 2016, there will be three billion Internet users globally—almost half the world's population. The Internet economy will reach \$4.2 trillion in the G-20 economies. If it were a national economy, the Internet economy would rank in the world's top five, behind only the U.S., China, Japan, and India, and ahead of Germany." In the second example, the Battelle Memorial Institute's recent report³ on genomic revolution estimates that a "\$3.8 billion investment in the Human Genome Project from 1988 to 2003 helped drive \$796 billion in economic impact and the generation of \$244 billion in total personal income."

What do both these examples have in common? These technology initiatives were boldly incubated by the United States federal government and commercialized by the private sector. What is clear is that transformative technology initiatives have a strong positive impact on the United States in jobs, companies, and competitiveness. In both cases, the government had a lead role to play in their success.

Guiding Principles for a Transformative Approach to Technology-Driven Innovation and Growth

Principle One: Infostructure Is Today's Infrastructure

A paradigm shift has happened due to technology. Cloud computing has changed the back-end processing in technology. Wireless has moved communications away from landlines. Mobility, tablets, and smartphones have revolutionized access points. Cheap sensors and GPS have altered our thinking of how, when, and where data can be collected and analyzed. Software is getting more assembled than developed. This is the age of "infostructure." The federal government must now focus on opportunities to build this new and emerging infostructure rather than emphasizing investments on older infrastructure concepts. A balanced approach between infostructure and infrastructure will lead to a rich dividend.

For example, the right way to address congestion in high-traffic areas may not necessarily be to add more lanes, but to nurture carpooling applications and dramatically increase the occupancy of cars traveling in high-traffic zones; or to encourage connected vehicle programs where cars auto-connect to other cars and drive safely at higher speeds in more compact formats—allowing more traffic throughput on the same roads.

2. The Connected World; *The Digital Manifesto: How Companies and Countries Can Win in the Digital Economy*, January 2012.

3. Battelle Technology Partnership Practice. "The Economic Impact of Human Genome Project: How a \$3.8 billion investment drove \$796 billion in economic impact creating 310,000 jobs and launched the genome revolution," May 2011.

The key takeaway about infostructure is that government must encourage public-private innovations as a means to succeed in this hypercompetitive world. The government and the private sector both have very clear and separate roles to play to drive technology innovation. The government must focus on creating the environment for large successful private sector investments in futuristic technology initiatives by focusing on forward-thinking, growth-oriented public policy, legislation, regulations, and standards. This is a critical area where federal government can lead rather than follow, and can make a lasting impact on the future economic status of the United States. The private sector, on the other hand, must focus on continuing to generate entrepreneurship, innovation, and building efficient and effective business operations in emerging technology industries within the United States. As the government starts thinking more “info” rather than “infra” centric, the new paradigm will drive other lasting changes in traditional industries and make the United States a “technomy.”

The federal government can reinvent itself as a premier player in the innovation-centric “technomy” of the future by focusing on moving faster and with greater efficiency and effectiveness ...

Principle Two: A Mission IT Focus Maximizes Public Value

Technology services offered by any government organization normally can be categorized in three different areas:

- IT systems that support mission (such as traffic control or food safety)
- IT systems that support “back office” functions (such as grants and procurement)
- IT systems that support infrastructure (such as network infrastructure or e-mail)

While all these types of systems are important, it is immediately clear that mission initiatives and related systems have the maximum opportunity to provide public value and private growth. These initiatives and related systems are also the most complex to conceptualize, visualize, fund, develop, launch, and maintain. Additionally, in many instances, clear roles and responsibilities for business owners of mission systems and their governance of technology projects are lacking. The IT infrastructure systems, on the other hand, have clear ownership within the office of chief information officers (CIOs) in the federal government shops, which are comparatively well governed as they are mostly commodities.

What is clear is that if the federal government wants to make bold strides in providing mission value to businesses and citizens, then IT systems that support mission need to form the core of the government’s technology portfolio. Clearly prioritizing mission technology initiatives across the government for funding, and governance for maximum results, are key.

It will also be important to discuss the appropriate role for the private sector in collaborating with the public sector to drive increased mission value for stakeholders. For example, the government can identify unfunded mission focus areas where mission services can be delivered via private sector funding models that deliver mass benefits to citizens. Identifying and holding their executive business owners and contractors responsible for expected results is another key.

This can be done by requiring the measurement of continuous progress in relation to investments being made in the systems. Currently, the federal government's end-to-end large project management methodology for technology-based mission initiatives (starting with conceptualization and ending with retirement of the systems) needs major overhaul, without which large technology initiatives may have limited scope of driving public value in time and on budget.

Principle Three: Optimization is Required by Functional Segment

According to the government research firm Deltek, the federal government today spends over \$120 billion on information technology projects of all kinds. There is every reason to believe that there is significant duplication in the new systems being developed or old systems being modernized. Take the example of IT systems that support a safety mission. Safety is a core mission of many government agencies including the Department of Transportation (transportation safety), Environmental Protection Agency (environmental safety), Food and Drug Administration (food and drug safety) and so on. Each of these agencies have related safety technology systems to carry out their safety mandate. Structurally, safety systems have similar components. Yet each of these systems is conceptualized, architected, designed, developed, managed, and modernized in isolation from one another.

There is every reason to believe that by creating a government-wide "safety platform" with specialized safety modules and data exchange connectors with state and local governments, as well as private sector, the United States government could drive increased public value, better dissemination of knowledge and faster cycle times for citizen service delivery. The key takeaway from this principle is that the federal government must categorize, govern, and fund its existing mission technology systems portfolio by segment architecture. For example, all safety systems within the federal government could be categorized under safety segment architecture and be governed by an adequately funded safety program office within the Office of Management and Budget (OMB), with improved oversight from congressional technology committees discussed below. By creating such a coordinated governance structure, the opportunity to learn from each other's best practices will flourish. Resources will be pooled and duplication will be reduced. Additionally, as requirements across the government are consolidated, there will be opportunities to create privately funded technology products with shared development costs, rather than with costly custom solutions as is currently prevalent.

Recommendations for Enhancing Government Efficiency and Productivity to Support U.S. Competitiveness

Recommendation One: Reduce Fragmentation in Governance Structures

The congressional governance of federal government investments in the technology portfolio is fragmented, and therefore not conducive to seeing the benefits of integrated approaches to technology. The Congress has 21 Senate committees and 22 House committees, and many more subcommittees, which directly or indirectly have oversight over technology initiatives and investments in federal agencies. However, technology today is highly connected infrastructure, and a holistic view and investment strategy is a key to future success. It is therefore essential that Congress establish a technology committee or subcommittee (or at least some sort of coordinating body like a task force) focused on maximizing transformative use of technology and effective involvement of private industry for the benefit of the country. By centralizing the technology governance functions in such a technology committee, the government is likely to get a clearer, holistic picture of the needs, challenges, opportunities, and threats for this fast-growing sector and can craft policies and regulations and promote appropriate public-private investments that can drive increased growth.

There is also substantial need for the Office of Management and Budget (OMB) to focus IT oversight by mission segments (e.g., safety), and foster program offices for major government-wide IT initiatives (e.g., data center consolidation). OMB's IT oversight group has limited funding and staff to take on this role alone. OMB can build on the success of its "PortfolioStat" efforts to review agency investments, and use this technique to review technology portfolios that affect mission segments as well. Considering the size of the U.S. government's technology portfolio and its increasingly important role in the U.S. economy, the importance of OMB's IT oversight cannot be overlooked and therefore adequate support is necessary. This investment will easily be recouped in savings from delivering mission initiatives with higher business value on budget and on time.

Finally, there is an urgent need to standardize the structure, capabilities, and capacity of agency chief information officers. Currently, the CIO structure varies widely from department to department, with some CIOs being either political or career, the office of CIO being either centralized (large staff and budget) or federated (small staff and budget), and reporting either to the secretary or another executive. The critical relationship of the CIO with the business owners of mission systems, and the CIO's involvement in mission systems planning and investment, are all too often poorly defined. With such non-standard structures, governmental IT legislation, regulations, policies, and initiatives cannot be consistently implemented across various agencies, creating gaps in mission delivery. Progressive, value-focused inspector general (IG) offices with a modern approach to IT oversight can be very helpful in achieving a vibrant, results-focused government IT portfolio.

The key takeaway here is that unless the executive and the legislative branch take a holistic view of technology investments, results will not be optimized.

Recommendation Two: Develop Measurement Systems to Implement Transformation

What does not get measured will not be achieved. Therefore, continuous, accurate measurement of major technology initiatives is crucial. There are good strides being taken in this regard with the advent of TechStats, CyberStats and PortfolioStats in government. However, multi-perspective measurement, such as the balanced scorecard approach, is key. Rather than individually measuring projects from within a particular agency, technology projects should be evaluated around common segments across federal agencies. For example, it is more worthwhile to have the safety segment portfolio aggregated across the federal government and then compare and contrast these projects to know the best practices and opportunities for integration and consolidation. A segment portfolio optimization program should be initiated, with results from such transparency made available to the public.

There is a further need to have cross-agency priority goals sponsored by OMB (e.g., a safety priority goal) which would have significant mission- (e.g., safety) related focus to improve mission systems. This would also support increased possibilities to work with the private sector, as well as state and local governments, on safety in a consolidated manner, rather than discrete agencies targeting independent opportunities. Furthermore, if there is a congressional coordinating entity for technology, they are more likely to have a consolidated view of what is working and what is not working, as well as potential opportunities to fund or not to fund technology initiatives within segments, making the entire ecosystem more efficient and effective.

Finally, there is an urgent need to create an Amazon.com-like government catalogue of all government technology services for businesses, citizens, or for interagency use. Such a catalogue should list all federal technology services by agency, by segment, and alphabetically; and be searchable. Each service should also have the names and contacts of the business owners for

the system, and other top executives as well as prime contractors should be listed online. Users of individual services should be able to rate and provide publicly viewable feedback on the services online. Low-rated or unused services should be retired or improved. Highly rated or most-used services should be grown by providing additional investments.

Recommendation Three: Recognize that Failure Leads to Success

Sir James Dyson, the legendary British entrepreneur, has famously said that it took him exactly 5,126 failed attempts to make his first bagless vacuum cleaner—some catastrophic disappointments, some minor defects over 15 years before the 5,127th prototype was a success—making him the fourth richest person in the UK with a net worth of \$4.2 billion.⁴ Recently, there have been several major failures with government investments in the energy sector, including Solyndra and A123 Systems. Tesla Motors, another company receiving government funding, is still struggling to make profits.

While large direct funding of private companies by government is being debated fiercely in political circles, what is clear is government funding of innovation in technology needs to be accelerated. As long as government focuses on funding innovation, it will in the long term drive public value and create private growth industries. Even if there are failures along the way they may in fact be early stepping stones to success and potential future dominance in these upcoming industries for the United States. In most situations, you learn more from your failures than from quick successes.

While particular technologies, products, or companies may fail, the insight, learning, knowledge, experience, and expertise gained from failure are absolutely critical in achieving long-term success. The government therefore must continue to make bold investments to advance transformative technology concepts to ensure leadership of the United States for years to come. It is not that the government must seek failure, but rather adapt from its failures to become more efficient and effective. Sometimes even the vibrant United States private sector, with its multitude of angels, venture capitalists, and private equity firms, cannot take the financial risk and drive the transformative change required for such ideas to take hold. It needs the federal government.

Conclusion

Driving public value through private growth is key for the United States to win though technology in this era of scarcity, and the federal government has a critical role to play. In this hyper-competitive world, change is the only constant, innovation ensures survival and collaboration creates opportunities, but ultimately only transformation leads to success. The federal government can reinvent itself as a premier player in the innovation-centric “technomy” of the future by focusing on moving faster and with greater efficiency and effectiveness through the three principles and three recommendations presented in this chapter.

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4. “Failure Can Be an Option; Success is Overrated.” *The Guardian*, Sunday 22 July 2012.



3. Institutionalizing Accountability for Speed in Government

By C. Morgan Kinghorn, Jr.

Introduction

How do incoming leaders institutionalize getting things done quickly, while still ensuring accountability? The path from a political campaign promise to delivering a citizen service is a long journey. The environment that new leaders are entering is likely to be very different than anywhere else they have worked. That is why it is important to have a broad understanding of why it will be difficult, but not impossible, to get it done and get it done quickly.

Understanding the Challenge of Managing in Government

What makes the leadership journey in the public sector especially challenging is the fact that those responsible for the implementation of programs are civil servants who by law must not be involved directly in the political theatre that often surrounds elections and legislative battles. For the most part, legislation is written by congressional staffers who have never managed much, let alone a complex program.

In addition, each of the three branches of government can—and often does—weigh in on the program's purpose, legality, or even the method of implementation, sometimes after the start of that implementation. Finally, of course, our federal system increasingly relies on thousands of state, local, and other entities to bring services directly to citizens. So getting it done is quite different in the public sector where there are a multitude of interests and power players, often with conflicting and multiple objectives. This complex world creates uncertainty and danger for you and it has the tendency to produce very risk-averse leaders and bureaucrats. That is the environment that political appointees are dropped into, and while it is a challenging one, there are strategies to be an effective innovator and leader within it.

So in this environment that often seems designed for complexity and risk of failure, how do you make government programs work? For example, how do you get health care reform done amid a nightmare of contentious political debate, resulting in over 2,000 pages of statutory detail which few have read? How do you get financial or credit reform done when that same political confusion exists and the political environment is very contentious? While these are only two examples of new statutes awaiting full implementation, there are thousands of other programs already operating that were also designed in the heat of political debates, emergencies, or citizen outrage over some unforeseen event. More often, the question for a political appointee or a career leader is simply how to improve a current program to make it more effective. The truth is that our government is complex and at its core, not designed to be fast, much less terribly efficient.

So how do you make it faster, and along the way, more effective and efficient? The good news is that while the environmental and structural complexities are there, they are nothing new. Many government operations are highly successful, even when constrained by our dysfunctional environment. Even with our system's complexities, there have been many successes, some as

obvious as the moon landing or the eradication of fatal diseases. And at the more micro-level, many ongoing operational programs, such as the bureaucracies established to improve the environment or collect taxes, are wonders of administrative success, given the pulls and pushes of our system.

As noted earlier, it is important to remember that for the most part civil servants don't write legislation, they just do their best to make sense of it. The civil servants in many government organizations have historically been able to overcome many of the built-in inhibitors that would confound most people managing a private business. It may not always be pretty, terribly efficient, or even highly effective, but the job gets done. There are many examples of successfully getting it done at all levels of government. Leaders of these civil servants should seek information and advice on how to operate in this complex and unique system.

The truth is that our government is complex and at its core, not designed to be fast, much less terribly efficient ... Many government operations are highly successful, even when constrained by our dysfunctional environment.

Constraints Confronting Government

It is important to understand the broad landscape and two major constraints now facing the federal government.

Constraint One: Uncertainty surrounding the budget process. In recent years, we have seen the collapse of the federal budget process and its impact at the macro and micro levels, both government-wide (Congress and the President), and at the agency operating level. There is a value in governmental core processes (the budget being one of them) that provide a foundation for decision-making. For decades, the budget process provided a firm foundation—albeit a disagreeable and time-consuming one—for managing resources. General and sometimes very specific priorities were established and the resources available to accomplish those objectives were reasonably set at least for a year, if not longer. Achieving an approved budget would reference all of the difficult elements of the federal system mentioned above, but once passed, the budget provided a foundation for moving forward. The detail within the budget, formulated within the agencies themselves and worked out in a sometimes contentious manner with the President's staff, made it clear (or at least clearer than now) what the priorities were going to be.

At the micro level or operating program level, if the budget process within an agency was well developed, many problems were fixed either in formulation stage (prior to enactment) or certainly in the development of an operating plan prior to the start of the fiscal year. This budgetary framework gave an agency a clear foundation for moving forward. At the national level, the discipline that once enforced balanced budgets no longer exists so that there is no pressure to make tough choices between programs. There is now little or no effort in the budget process—given the lack of enacted budgets—to truly establish priorities; and the constant movement created by endless continuing resolutions further delays decision-making. All of this confusion minimizes the ability of budgetary leadership within an agency to enforce discipline regarding choices. In effect, 20 years of management agenda have more or less been negated by the current necessity to manage month to month, even sometimes week to week, and from

continuing resolution to continuing resolution. And on top of all this have loomed fiscal issues that bring increasing confusion because of the chaos that results from uncertainty and its fall-out. So without such a building block creating a broad decision-making structure, you are going to have to create your own mechanisms to manage decision-making on budget and program priorities.

Constraint Two: Ambiguous federal legislation. A second constraint that makes government less nimble is the fact that major new legislation has not been reviewed by the executive board to the degree that it used to be. There is little back-and-forth on significant issues outside of the more limited number of congressional staffers and interest groups that are now allowed into the drafting room. Bipartisanship at this stage rarely exists. Perhaps more important, the agency staff who end up implementing new legislation often have no input into the specifics. This has resulted in legislation that is often contradictory and fraught with unintended consequences.

In the long-ago past, new national programs were created by individuals who had been involved in operating complex missions, and the long-standing bureaucrats were just that: bureaucrats who knew how to implement legislation and programs that had some chance of working. Time was spent on examining not only the intent of the legislation but the feasibility of effective implementation. So for those lucky enough to become leaders of a relatively new program, they will need to find ways to quickly understand the unintended consequences and fix them directly.

Key Steps in Succeeding in Government

These constraints, and others, can be roadblocks to getting things done. So how can you be successful in this federal operating environment? Not everyone is successful; some leaders leave town quietly to go back home. Some leave town having accomplished only a fraction of their agenda. The best leave town wanting to return and knowing their staff would like them to return. I have worked with political and career leadership who have left town in all of these ways. Obviously, it is the last way that one wants to emulate!

To move quickly, leaders need to create a path through the roadblocks. I would like to share three steps that I believe enable leaders to be successful in this environment, and indeed to want to return some day and, perhaps more important, be able to do so. I have managed programs within highly political organizations, as well as those that are apolitical. In addition I have operated in organizations that are highly visible, as well as those that remain more or less under the day-to-day radar.

The key to success for a leader is to create an effective operating environment that establishes a clear framework of objectives, of responsibility and accountability. However, this environment must also reference the kind of operating environment you have—very public or more under the radar; highly politicized outside and inside or not. Many of the constraints will be beyond a leader's abilities to directly fix, but will directly affect your operating environment. So the key to success or at least a chance at it is to create a set of effective processes that can soften the disruptions of the macro politics on your agency's operating environment. It's the details, actually, that can help.

Step One: Use analytics to make choices. The first step is to create analytical processes for making choices that reflect the operating environment of the organization, as well as the broader world around it. Undoubtedly the administration will have a new or revised management agenda that will define the broader administrative and program objectives. Embrace that and use it to accomplish your own mission responsibilities. However, leaders still need to create an operating

environment within their agency with its own initiatives, feeding off the broader directions of the Administration, but focused on your own operating world. To start framing an effective operating environment, leaders must find out how much they really know about their organization's culture and its stakeholder environment. Leaders must ask who the external players are that can make or break their chances of success. Leader must also find out who the innovative leaders are within that organization. If leaders don't know these factors they need to learn them quickly, if possible even before starting job.

Step Two: Know your allies. Leaders should get to know those who will be around them, and talk to as many people as possible about the place. Leaders should learn from discussions which employees have open minds and have a good sense of themselves and of the broader operating environment. They should begin to formulate whom to have around at the beginning of the journey. Where possible, they should talk to employees down the food chain as well. And whether they come from within the organization or from a previous work life, leaders should determine who it is they want right around them, people close to them that they enjoy working with, talking to, debating ideas and solutions. To the extent possible, when they actually begin their job, leaders should continue to build understanding of how successful people in the organization get things done quickly and effectively. In order to accomplish an agenda, leaders will need to:

- Understand the operating environment
- Know who the “get it done people” are
- Understand what issues or actions can get you painted in a negative light

Step Three: Adopt operating principles that reflect your agenda. The third step in creating an effective operating environment is to establish some operating principles that fit the leader's

Managerial Cost Accounting (MCA)

The greatest potential to improve program operations in the public sector is the serious implementation of managerial cost accounting, a type of analytics.

There are lots of names people use for managerial cost accounting with many variants, ABC, ABM, etc. In the 1990s while at the IRS, I led the government-wide effort to create Managerial Cost Accounting Standard No. 4. I believed managerial cost accounting needed to be broad-based, focused on management information and not accounting, and flexible enough to fit any organization in the federal government. That standard, still in place today, and I believe still with the potential to be as effective as our working group thought it would be, provides you with an existing, regulatory framework to create an operating environment that has at its core continual process improvement, and that can now rely on the greatly improved financial data and systems developed over the last 20 years.

The reason I believe MCA is so useful is that it enables program managers to understand, sometimes for the first time, how their programs operate because it requires a detailed examination of the business processes. As you build an MCA program, I strongly believe you need to have several attributes that help you and your team understand the effectiveness of each program and key process. Full costs is obviously one; the others are timeliness, the value to the customer of each process, and if you are really living dangerously, the inherent risk of that process. With a single MCA “system” all programs can be analyzed as their full costs, how long it takes to deliver that particular product or service to the citizen, the value your own people believe each process has for the citizen, and the degree of risk to the organization or the product or service of each process. Furthermore, if implemented correctly, the information from the analysis gives you a road map to improve your program's efficiency and effectiveness, including elements of time, quality, risk, and cost.

agenda. An overall concept to remember is: focus, focus, focus. There is a relatively short time to accomplish objectives. So whatever are a leader's operating or strategic objectives, while their impact can influence operations for years, the time to implement them will be very short, on average a couple of years, possibly a little longer, and possibly even less.

While these principles may not be used (but they could be given the state of government management today), leaders need to develop a simple set to provide a focus, a rallying cry for staff as well as the broader organization. There have been many diversionary tactics thrown up by people who didn't want to know the full costs, or have a single source of data, or liked the free goods; the existence of a set of operating principles helps to hold everyone's feet to the fire. Leaders should figure out principles and use them to drive initiatives.

Step Four: Construct processes that will hard-wire your initiatives into the organization. The final step in building an effective operating system is to construct processes that will hard-wire initiatives into the organization, although not in a way that prevents future flexibility. The hard-wiring is important as well because the continuation of objectives will not necessarily rely only on the continued presence of those who were most supportive. Constructing a process that will enable administrative as well as mission improvements will take time. But it is worth the effort to create such a foundation because some significant success can be quick.

Conclusion

These four steps—and my long tenure in public service—lead me to conclude with several thoughts on how to get things done quickly, but accountably, without being slowed by bureaucracy and other obstacles. I offer the following advice for leaders.

- People watch what you do when times are tough: so watch what you do in the tough times, particularly how you deal with people. Build up reserves of support throughout the organization.
- Trust but verify with your new teams. 100 percent of federal employees want to do well; somewhat fewer, however, are *able* to do well. Some don't adapt well to changes in leadership or programs they helped create, for example. Work with the ones that are able; you will know who they are. As one of my mentors told me, have someone around whom you like but who is willing to argue and challenge you.
- Give a high degree of attention to managing risks in your programs. Day-to-day risks and long-term risks need to be kept in view. But don't do it in a way that creates an organization with people, including yourself, who are risk-averse. Have some folks around you who understand the concept of risk management and will keep an eye on it for you. You need to keep an eye on it as well.
- Find the often-rare traits that would define an innovative bureaucrat—someone that organization admires, who has been successful in any definition of the word, but who is willing to change. Find those people and embrace them and work with them; use them to help you achieve your objectives.

In closing, the journey new leaders embark upon will be an exciting one, filled with incredible people. I hope the suggestions above will make it successful, both for the relatively short run of a leader's appointment and the longer life of their organization.

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4. A Model for Assessing the Impact of 21st Century Information Tools To Streamline the Operations of Government

By Mark A. Forman

Introduction

Can government improve effectiveness and shrink costs by getting rid of paper-based approaches to serving citizens and regulating businesses? Virtually every service provided by government depends on information that comes from someone filling out a form: who qualifies for a social service, whether a business gets a license or registration, which company's bid is selected to build a road, etc. The vast majority of these processes now use electronic versions of government forms. But the government processes, or workflows, are almost always the same as they were when government relied on paper, leaving much room to reduce costs, errors, and the time government takes to make decisions and serve citizens.

Overview

Throughout the 20th century, government at all levels grew in both the breadth and volume of programs. Three types of government programs (statistical surveys, social services, and regulatory compliance) share a common operating process:

- A person or business fills out a form
- A government agency enters information from the form into its computers
- Computers tell the government whether everything is acceptable or whether more paper-work is needed

In addition, government purchasing, grants, and loan guarantees use a similar approach to receive bills and quarterly progress and financial reports.

Information technology creates opportunities to share information and the Internet makes volumes of data available much faster than government can collect and process information using 20th-century, paper-based approaches. The first generation of e-government solutions has shifted this paperwork to web-based forms, but has not changed the core government operating approach. Ironically, while governments have moved from paper to electronic forms, they have actually increased the use of paper-based operating approaches. The Office of Management and Budget's report, *Information Collection Budget for 2010*, found:

In FY 2000, the public spent an estimated 7.4 billion hours responding to such collections. By FY 2010, that number grew to an estimated 8.8 billion, an increase of more than 19 percent. (p. 13).¹

This chapter will examine the following three questions:

- What is the opportunity for government to get the paperwork out of operating processes?

1. White House Office of Management and Budget, *Information Collection Budget for 2010*. 2011. http://www.whitehouse.gov/sites/default/files/omb/infoereg/icb/2011_icb.pdf

- What are the potential cost and effectiveness benefits?
- What actions are needed that could generate those gains?

The Current Situation and Opportunities

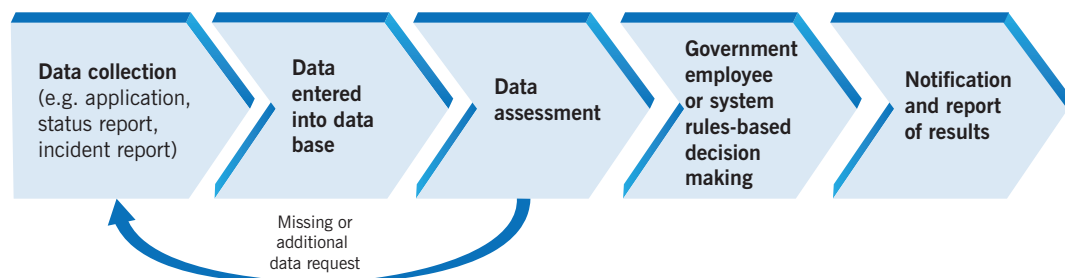
Is it possible to get order-of-magnitude improvements in government effectiveness and operating cost by streamlining common government operating processes? In general, government operating process success can be measured using four indicators:

- Policy outcomes
- Total costs
- Error rates
- Cycle time

Improvements in government operations will be reflected in such process metrics as fewer errors (e.g., improper payments), faster response time (e.g., stopping a robbery in process), and better outcomes for a given program budget. But identifying improvement opportunities requires an understanding of the way information is collected and used in government operations. Figure 1 depicts the five common operating processes of transactional government services.

A typical government operating process requires a citizen or organization to fill out a form. This includes forms for programs such as unemployment insurance, where an initial request for a benefit leads to a monthly status update to continue receiving the benefit or service. Next, the data are retyped or transferred electronically into a database. Under automation and e-government initiatives over the past 20 years, many government systems will review the data for completeness and issue a request for missing or additional data. Once those data are added, the process continues and the data are usually reviewed against a list of statutory criteria. Next, a government employee reviews the evaluation and notifies the applicant of the decision. In some cases, a computer system will issue the decision based on whether the data meet the criteria (for example, the Federal Housing Administration will issue a certificate of insurance based on an automated evaluation of whether an applicant's data meet certain criteria).

Figure 1: Common Government Operating Process



While this traditional process appears simple and straightforward, many people consider it to be slow, easy to manipulate, and burdensome. Often, people seem to think government is bureaucratic and more concerned with the form than the situation, especially since each form has its own user manual—a regulation comprising terminology unique to government. The problems start with a poorly designed form that create data problems that, in turn, often result in untimely or erroneous decisions.

Recently, the Office of Management and Budget issued a random call-to-action for U.S. federal agencies to reverse this trend. Cass Sunstein, then administrator of the Office of Information and Regulatory Affairs, wrote in an August 9, 2012, *Memorandum to Heads of Departments and Agencies*:

To carry out their functions, Federal agencies must often ask members of the public to provide information by filling out forms (including applications to obtain permits, licenses, benefits, and grants). If poorly designed or unduly complex, such forms and their accompanying instructions can prove difficult and confusing, especially for individuals and small businesses. Unnecessarily burdensome paperwork requirements can undermine economic and other goals.²

With respect to federal forms, simplicity and ease of comprehension are exceedingly important. In recent years, agencies have made important efforts to simplify and streamline forms and, where appropriate, to eliminate them. Despite these efforts, it is a continuing challenge for agencies to minimize complexity and confusion.

Twenty-first century technologies offer new tools that can significantly and measurably improve government operations.

Complex or confusing forms will lead to people putting erroneous data into the process. Erroneous data lead to either bad decisions or timeliness stretched by requests for additional information. Moreover, these processes are focused on post-facto rather than preventative activities, and require someone to fill out a form before government can initiate an action. Clearly, there are always opportunities to simplify forms (e.g., auto-populating forms with data already collected). But might the biggest opportunities be achieved by replacing the common government forms-driven process with a more modern set of tools?

Emerging Tools

Table 1 describes seven emerging tools to improve government operating efficiency and effectiveness by streamlining common operating processes. The tools include a broad spectrum of technologies that are being applied to modernize government operations. They include analytic techniques for both structured and unstructured data made possible by recent growth in computing capability, as well as Internet-based social networking tools resulting from the wide use of the Internet in social media and e-commerce. In addition, there are virtual case management tools, which integrate pieces of 1990s technology with emerging tools to improve customer service.

Synopsis of Assessment Results

Table 2 presents a hypothetical assessment of each of the seven tools using the algorithm described in the box on page 33. Scores of six or more in a given process element illustrate

2. Cass R. Sunstein. Testing and Simplifying Federal Forms: Memorandum to the Heads of Executive Departments and Agencies, and of the Independent Regulatory Commissions. August 9, 2012. <http://www.whitehouse.gov/sites/default/files/omb/inforeg/memos/testing-and-simplifying-federal-forms.pdf>

Table 1: Seven Tools for Streamlining Common Government Operating Processes

| Tool | Description | Purpose | Example Use in Government |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1. Structured Data Analytics | Use of quantitative data and statistical tools to evaluate a situation, generally including performance measures, and determine relative likelihood of success of alternatives | To reduce errors and improve quality, timeliness, and usefulness of insights into a situation or options for responding to the situation | Risk analysis for targeting interdiction efforts in cargo screening, finding cause of a food-based illness outbreak |
| 2. Tracking and Use of Social Media | Use of Internet-based social networking tools oriented toward community reviews and descriptions of events | To quickly identify and respond to events requiring government intervention or where government needs to rapidly communicate with citizens | Rapid identification of public safety incidents, such as restaurant uncleanliness |
| 3. Web-Based Data Assembly | Use of Internet data sources for automated data collection | To rapidly assemble economic, statistical, transactions, and other data sets from open sources | Geographic data used in mash-ups. |
| 4. Unstructured Data Analytics | Use of tools that organize and analyze non-quantitative data | To assess and improve understanding of non-numeric data (e.g., videos and independent audit and evaluation documents) | Fingerprint identification and facial recognition tools for criminal investigation |
| 5. Social Network and Path Analysis | Also known as Link Analysis, a data-analysis technique used to evaluate relationships (connections) between various types of nodes, including organizations, people, and transactions | To identify criminal, fraud, terrorist, and other nefarious group activity. | The Recovery Accountability and Transparency Board's Recovery Operations Center (ROC) identification of fraud networks. |
| 6. Use of Data Standards | Use of common terminology, or a taxonomy, to describe data across multiple databases | To enable information-sharing, communication, and re-use of related data | National Information Exchange Model (NIEM) used to share law enforcement data among federal, state and local first-responders |
| 7. Virtualized Case Management | Use of software to relate information on a citizen's needs with service options | To enable information compiling, correction, analysis, and alignment of services to individual needs | Veterans Relationship Management |

how a given tool can significantly improve government operations. Consider how each emerging tool is assessed for each process element, and certain emerging tools will stand out as most beneficial.

- Social media, web-based data assembly, and the use of data standards for data sharing tools score high for their ability to improve data collection.
- Web-based data assembly, the use of data standards for data sharing, and virtualized case management tools score high in getting data into databases because these three tools make significant use of XML and similar data exchange standards.
- For improving data assessment and decision-making, two emerging tools get very high scores (structured data analytics and virtualized case management) because their sophistication and robust analysis capabilities are especially well-suited to government operations.
- Unstructured data analytics and social network tools score high in improving data assessment and decision-making because of their analytic capabilities, although they did not get the maximum scores because they have some limitations in the breadth of applicability to government operations.

Table 2: Hypothetical Assessment of Tools for Streamlining Common Government Operating Processes

| Tools | Data Collection | Data Base | Data Assessment | Decision Making | Notification and Report | TOTAL |
|-------------------------------------|-----------------|-----------|-----------------|-----------------|-------------------------|-------|
| 1. Structured Data Analytics | 1 | 1 | 8 | 8 | 1 | 19 |
| 2. Tracking and Use of Social Media | 6 | 1 | 4 | 1 | 8 | 20 |
| 3. Web-Based Data Assembly | 8 | 8 | 1 | 3 | 1 | 21 |
| 4. Unstructured Data Analytics | 4 | 1 | 6 | 6 | 1 | 18 |
| 5. Social Network and Path Analysis | 4 | 1 | 6 | 6 | 1 | 18 |
| 6. Use of Data Standards | 6 | 6 | 2 | 4 | 1 | 19 |
| 7. Virtualized Case Management | 4 | 6 | 8 | 8 | 6 | 32 |

Note: Assessments ranked from 1 (low impact) to 8 (significant impact).

- For notification and reporting, two elements (social media and virtualized case management) rate highly: social media ranks high for its ability to rapidly tailor and create two-way communications, especially in emergency situations; virtualized case management ranks almost as high because it facilitates tailoring communications and problem-solving to individual constituent needs.

In comparing tools in this hypothetical case against each other to prioritize the value of emerging tools for improving government operations, one tool stands out—virtualized case management. This tool offers a comprehensive approach to rework citizen service. It is unique in its ability to significantly improve assessment and decision-making, while also making large improvements in database management and notification and reporting. These improvements result from the broad visibility into client records and ability to make data current in today's virtual case management technology.

A good example of virtualized case management's application in government is the Veterans Relationship Management (VRM) initiative at the Department of Veterans Affairs. According to a press release from Secretary Eric K. Shinseki:

Veterans will have a better experience when they contact VA for assistance, and our employees will be able to quickly convey accurate, up-to-date information through call centers and the Internet (September 21, 2010).

Virtual case management allows citizens and caseworkers to see all the data related to their situation, assess multiple facets of both the need and solutions options, and conduct follow-up and make modifications as needed—all faster, cheaper, and better than legacy approaches, which often have overlapping databases and operations that function independently. The virtual case management approach considers data and options across traditional silos, thereby providing benefits across the four metrics and at multiple phases of the operating process. It holds significant promise for improving government operating processes for benefits programs, licensing, and regulatory compliance.

An Algorithm For Evaluating Emerging Tools

Tools such as the seven presented in Table 1 can improve government operating processes. These improvements can be tracked by using standard process metrics, i.e., cycle time, cost, error rate, and outcome. Ideally, government should take advantage of any tools that help it perform faster. But given the reality of budget limits, few governments can afford to buy all available tools. Rather, governments can set priorities by ranking tool investments on the basis of costs and benefits using standard process metrics:

- **Cycle time:** Will the tools increase the speed of government action? How fast can government change course once it gets better information?
- **Total costs:** How many resources will be spent on the tool and what will be the net program impact?
- **Error rates:** Will the tool reduce errors in program decisions (e.g., improper payments)?
- **Policy outcomes:** Will the tool measurably improve achievement of policy outcomes?

The assessment method comprises three possible scores for a tool: high positive impact (score=2), low impact (score=1) or no impact (score=0). A score is assigned for each of the criteria: cycle time, total costs, error rates, and policy outcomes. So a given tool can be scored as zero (no impact in terms of cycle time, costs, errors, or policy outcomes) to eight (significant reduction in cycle time, total costs, and error rates, plus significant improvement in achieving policy outcomes). Since the common operating process has five elements, the maximum score would be 40 for a tool that significantly reduces cycle time, total costs, and error rates and significantly improves achievement of policy outcomes for all five elements of the common operating process.

Getting Ready to Manage the Use of New Information Tools

In the information age, 20th-century paper-based approaches still dominate public administration thinking on how government works. There are clear opportunities for improving government operations, including the seven emerging tools presented in this chapter and other new tools that will likely emerge in the future. To get started in identifying which tools may be best for improving a specific program, government executives should start initiatives by asking the following key questions regarding data collection and use:

- How much information is retyped into multiple government forms and systems? Does this create inconsistencies that are difficult to reconcile?
- How much of the information collected manually by government is printed out from a citizen or business computer and retyped into a government computer because the government computer does not allow for electronic data exchange?
- How many government services are not consumed, how many published data sets have errors, and how many services are delivered on the basis of erroneous information because the burdensome data form requirements are too difficult to get done right?
- How many government programs could be more effectively and efficiently operated using information already available from electronic sources, such as Twitter, Yelp, or existing databases?

Managing the Transformation

After identifying and evaluating tools using an assessment method such as the one presented above, government executives will have to manage the transformation. There are five issues that

executives will have to address in the transformation. Executives will have to tailor their specific actions to the specific circumstances surrounding each initiative.

- First, the leader will have to develop staff with knowledge of how to apply technologies in specific government operating environments.
- Second, some processes will need to break down data silos that prevent sharing and joint problem-solving.
- Third, leaders will have to confront or leverage cultural issues, such as being at the leading edge versus waiting for other approaches to fail.
- Fourth, leaders will have to consider the bigger delivery channel issues (both for services and touchpoint operations) that may affect how local, state, and federal governments work together in service delivery.
- Fifth, any changes in information-related processes have to incorporate an understanding of their implications for security and privacy issues.

Conclusion

Twenty-first century technologies offer new tools that can significantly and measurably speed up government operations and speed the delivery of services. Programs at local, state, and federal levels can apply the assessment method described in this chapter to select and prioritize those emerging tools that will best improve efficiency, effectiveness, and achievement of program outcomes. Additional emerging tools may be added to the scoring matrix and evaluated.

The assessment found that virtualized case management offers significantly more benefits for major government operations improvement when compared with other emerging government reform tools. However, the most beneficial tool requires significant executive effort in sponsoring and managing change. Using metrics in managing the initiative and maintaining focus on stakeholder pain points will enable the government executive to successfully apply the assessment method and obtain benefits from an initiative.

Given that emerging tools are new, government executives should have people on the project team who are increasingly knowledgeable about the initiative. At the same time, assessing options based on outcome metrics, such as those included in this chapter, will enable the executive to improve the likelihood of success by linking the prioritized projects with both the stakeholder desires and most beneficial opportunities.

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5. Security and Privacy Actions that Enable Speed in Government

By Franklin S. Reeder

Introduction

The “right to be left alone”¹ and to be “secure in our homes and our persons” are core values as old as the republic. The introduction of ever-more capable information and communications technologies has raised new challenges as to how we can protect those values, while at the same time exploiting the benefits that technological innovation offers.

The fast pace of development, deployment, and adoption of information technology² has created two opportunities:

- The expectation by the public that government services and information will be available 24/7 and increasingly rich in capability
- The capability to deliver information and services through multiple channels, including tapping into the creativity of individuals and companies who are seeking to develop new ways to deliver information and services, such as mobile apps

With the adoption of ever-more capable and sophisticated technologies to deliver faster, more efficient services, the federal government faces major challenges. Specifically, the government now faces two types of risks:

- The risk to the integrity of government systems and infrastructure
- Unwarranted invasions of privacy, the unintended but real consequences of greater reliance on modern technology

While some of the reforms in existing privacy and security policy and practice may require legislation, much can be done within existing legal authorities to mitigate the risk we assume in using information technology. Existing legal authorities can also reduce the potential of unwarranted intrusions upon personal privacy. Some specific, actionable recommendations are presented in this chapter to respond to both security and privacy concerns. This chapter seeks to provide a framework for thinking about and addressing these concerns.

The Internet has created the global village that was, until recently, merely a figure of speech. Social networking—YouTube, Twitter, Facebook and others—and other new technologies offer exciting opportunities for the public to connect with one another and with their government. The notion that our troops in far-off places can communicate face-to-face with their families

1. “The Right to Privacy,” Samuel Warren and Louis Brandeis, *Harvard Law Review*, December 15, 1890.

2. The rapid adoption of the smartphone best illustrates this phenomenon. According to *Technology World*, “... in late 2006, the quarter before Apple announced its now-iconic iPhone, only 715,000 smart phones were sold, representing just 6 percent of U.S. mobile-phone sales by volume. ... That changed when Apple’s iPhone sold 1.12 million units in its first full quarter of availability. [In May 2012, six years later] Nielsen report[ed] that smart phones represent more than two-thirds of all U.S. mobile-phone sales. Nielsen also reports that 50 percent of all U.S. mobile-phone users—which equates to about 40 percent of the U.S. population—now use smart phones.” In contrast, it took nearly 65 years for the telephone to reach 40 percent market penetration. (May 9, 2012).

via Skype or that wage-earners can gain immediate access to their Social Security earnings records still boggles our minds. But, as recent revelations about misuse of personal data suggest, social networking and other innovative technologies can create potential hazards for those who use them. Our growing dependence on these technologies for everything from routine financial transactions to the operation of the power grid potentially makes us more vulnerable to failures in that technology.

The leaders of federal programs that regulate and implement such technologies must preserve the trust that citizens and businesses place in government. This trust depends on protecting the privacy and security of the data and systems used to collect information, analyze and share data, make decisions, disclose, and provide access.

Privacy and security are not inherently in conflict. Indeed, properly secured systems can substantially reduce the likelihood of unauthorized disclosures of personal information or data tampering. At times, however, privacy and security can be in conflict, such as when security involves surveillance of individual actions on networks or when protecting privacy impedes security professionals from seeing information about vulnerabilities and threats that come from or through individuals. The key is to have an open debate about and clear understanding of the rules of engagement, so that citizens understand how government actions affect them.

With the adoption of ever-more capable and sophisticated technologies to deliver faster, more efficient services, the federal government faces major [security and privacy] challenges.

Overarching Principles for Responding to Security and Privacy Concerns

Before discussing the challenges of security and privacy, it is important for government to have a set of principles from which to guide its actions in responding to security and privacy concerns. Government leaders can maintain public trust and avoid needless intrusions into the personal information of the individuals with whom they are in contact by considering three simple, interrelated principles: consultation, transparency, and choice.

Principle One: Consultation. The E-Government Act of 2002 requires agencies to conduct privacy impact assessments for electronic information systems that contain identifiable personal information and make those assessments available to the public, especially when a new system is being developed or an existing system is being modified. By engaging the groups of citizens that may be affected in conducting those assessments, agencies can forestall misunderstanding about their practices and intent and even get ideas on how a system can be designed that minimizes intrusion.

Principle Two: Transparency. While the Privacy Act of 1974 has numerous notice requirements, such as notices in the Federal Register and on forms used to collect personal information, it is highly problematic whether they achieve the intended purpose. Ensuring that those notices as well as privacy policies are displayed prominently, are brief, and are in plain English can help to allay public concern. Intermediary groups (e.g., veterans' service organizations for

veterans or AARP for senior citizens) can often provide a valuable channel through which to communicate agency policies and intent and solicit feedback.

Principal Three: Choice. In some instances, there is a trade-off between privacy and convenience; e.g., if I allow a website to track my patterns or history of use, I may be able to avoid re-entering information or have options presented to me based on past behaviors. For some individuals, that is a convenience; for others, it is an intrusion. Wherever possible, offer choice.

Responding to Security Concerns

Security Concern One: Reliance on compliance-based reporting. Under current policy, lengthy checklists and outdated guidance cause agencies to waste scarce resources on measures that do little to mitigate risk. The problem is exacerbated when oversight organizations, like the inspectors general and the Government Accountability Office, produce reports on compliance against those outdated policies, wasting time and energy and incentivizing exactly the wrong behavior among agencies.

There is hard evidence that continuous monitoring, measurement, and mitigation against a defined set of high risks are far more effective in addressing real threats in an environment in which those who seek to do us harm move quickly. While agencies should still be required to report annually to OMB and Congress under the Federal Information Security Management Act of 2002 (FISMA), effective security requires that continuous monitoring, measurement, and mitigation must replace the current regime of periodic, compliance-based reporting.

Recommendation: Change FISMA implementation from a compliance approach that focuses on process rather than outcomes to one of continuous monitoring. This change is the single most important action that leaders can take to improve cybersecurity. OMB should use the authority provided under the existing statute to encourage this important reform.

Security Concern Two: Responding to cybersecurity threats. The national security and intelligence communities have cybersecurity competencies that are critical to protecting civil systems such as banking and utilities. Those capabilities can and should be used without compromising civil values.

The debate on whether the federal government should impose cybersecurity standards on the private sector asks the wrong question by posing the issue as an ideological rather than a practical question.

Recommendation: Congress and the Administration should revised authority structures to reflect the reality of a changing world:

- The increased critical role in information security for the Department of Homeland Security, which did not exist at the time the underlying statutes and current OMB policies were last revised
- The need to redefine the roles and relationship between national security and non-national security systems which would encourage sharing of cyber information across agencies

By modeling best cybersecurity practices, the federal government can lead by example and develop *de facto* standards of due diligence that will render that question moot. Leaders who adopt this approach will incentivize similar, sound action from state and local governments, businesses, and the general public.

Security Concern Three: Notification of cybersecurity threats. The government could provide notice to individuals if their machines are causing a cybersecurity problem. Due to the likelihood that external devices will be connected to the agency’s information networks—i.e., those not owned and controlled by the agency—strict business rules and constant vigilance are required to ensure that those devices are not used to install malware; e.g., viruses; or steal data, and unknown devices need to be isolated.

Recommendation: For public-facing systems that involve access to sensitive information, agencies could adapt a commonly used commercial technique and establish an air gap between what the public can access and sensitive agency information stores.

Security Concern Four: Assessing security risks. Government leaders need to consider the cybersecurity implications (risk and mitigation strategy) of each business decision. The currently in-vogue phrase is security “baked-in,” the notion that security needs to be designed into every new piece of technology. This applies to policies as well. For example, let’s look at the decision on whether, and if so under what conditions, employees should be allowed to bring their own devices into the workplace and/or connect them to the agency’s networks. Such a decision will require careful consideration of how sensitive agency information will be protected from loss, tampering, or exfiltration.³ The reflexive reaction to each new technological innovation that could pose a cyber threat is to say “no.” Such an approach denies the public, both as taxpayers and as users of government services, the substantial efficiencies and other benefits from innovation.

Recommendation: Government leaders should:

- Routinely conduct a security risk assessment of each change that they are contemplating
- Look beyond changes that they are contemplating to devices and technologies that are coming into the marketplace to consider how to exploit their potential while mitigating the risk they might impose

Responding to Privacy Concerns

With respect to information privacy, a “Code of Fair Information Practices” first articulated in 1973⁴ underpins most privacy laws, including the Privacy Act of 1974.

This code, while still valid, does not address the new complexities of working at the intersection of privacy and security as information moves more quickly and the technology and potential wrongdoers become more capable.

We need a new set of guidelines for leaders to follow that respond to privacy concerns.

3. Perhaps the most dramatic example of failure to consider security implications was the theft in May 2006 of a laptop computer that contained unencrypted sensitive information on 26.5 million veterans. The database had been loaded onto the laptop for analytic purposes. Fortunately the laptop was recovered and a forensic analysis revealed no evidence that the data had been used or of identity theft. The loss and potential harm to veterans could easily have been averted by two simple policy decisions: (1) a set of business rules on the amount of live, personally identifiable data that would be permitted to be downloaded onto any portable device; and (2) firm policies requiring encryption of those data.

4. *Records, Computers and the Rights of Citizens*, Report of the Secretary’s Advisory Committee on Automated Personal Data Systems, Department of Health Education and Welfare, July 1973 [available at <http://aspe.hhs.gov/datacncl/1973privacy/tocpreface-members.htm>]

Privacy Concern One: Appropriate handling of personal information. As noted above, privacy and security are not inherently in conflict. Indeed, the public has a right to expect that agencies will deploy robust security measures to protect against both intentional and inadvertent compromise of their personally identifiable data. For the purposes of determining what level of security is appropriate, it may be helpful to analogize to the public health model. Most of us can protect ourselves against common threats by practicing good hygiene and preventive medicine, but at-risk populations, from the very old and very young to those who may be immune-compromised, must employ more aggressive measures.

Recommendation: Agency risk analysis should inform the level of protection, detection, and mitigation, in terms of how deep to go in addressing a cybersecurity threat. Information and systems that confront high cyber risks or threats should receive more oversight to protect privacy. On the other hand, for many agencies that do not process highly sensitive personal information, following the minimum levels in relevant National Institute of Standards guidance may be sufficient.

Privacy Concern Two: Using electronic surveillance. As the nation's adversaries become more skilled in the use of advanced information technologies, protection of the nation's security increasingly entails electronic surveillance.

Recommendation: The government should undertake a proper review where cyber protection requires individual surveillance consistent with law. The following guidelines are offered for such a review:

- Agency head approval should be required in cases where cyber protection requires individual surveillance. In cases of multiple agency activity (e.g., the Departments of Homeland Security and Justice), activity involving the Executive Office of the President, or when exigencies require action in the moment, prior review by an independent entity such as the President's Civil Liberties Oversight Board should be required.
- Any review should be ex ante, except in emergency cases when notice should occur as soon as possible thereafter.
- The content of messages should be examined only in cases of high risk or threat. Much can be accomplished by constant monitoring of the pattern of traffic without looking at the content of messages.

Conclusion

The recommended actions outlined above are but steps in the continuing journey to protect our core values. Innovative uses of information and communications technology will continue to be developed. For example, how many of us anticipated the widespread use of portable devices, social networking, or new surveillance technologies? Policy makers and those who operate the engines of government need to continue to adapt both its policies and practices to protect privacy and security in a world that is not, in any sense, standing still.

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6. Six Conditions that Foster Innovation, Speed, and Performance

By Robert Shea

Introduction

Fostering innovation, speed, and performance in government is not the impossible task it seems. I recall debates over the government's broken security clearance process in which a lofty goal of 40 days for conducting background investigations was being considered. Those involved in the process said it was a ridiculously aggressive target. But the goal was set and, with steady attention and perseverance, background investigations are now being conducted faster and better than ever.

Another example is when agencies were asked to produce audited financial statements within 45 days of the end of the fiscal year. Financial managers balked. Today, all but one of the major federal agencies meet this deadline. And there are many other examples where the once considered impossible is now eminently doable. But it would be naïve to suggest that bureaucracies are always laboratories for innovation, speed, and performance. So, how do we create an environment that fosters these important qualities? Let's first look at the real barriers that must be overcome.

Barriers to Innovation, Speed, and Performance

Barrier One: Aversion to risk. The biggest barrier to innovation in government is a stifling aversion to risk. In the federal government, at least, there is an oversight juggernaut made up of congressional committees, the Government Accountability Office, and agency inspectors general waiting to find and advertise every stumble. The reward for risk-taking in government may well be a subpoena to testify in a congressional investigation—not everyone's definition of fun.

Barrier Two: Difficulty in setting clear goals. Another shortcoming among government agencies is in clarity of purpose. It's not always clear what it is we are trying to achieve. Federal agencies have a long-standing difficulty setting clear goals that capture the outcomes they are supposed to accomplish. Instead, they often simply report the amount of money they spend or the activities they perform as an imperfect proxy for measuring the results they achieve.

Barrier Three: Declining resources. Finally, federal programs suffer from declining resources for the foreseeable future. That means they may not have all the money they need in each program to make it successful. Programs will have to find ways to leverage other programs to accomplish their objectives.

Conditions to Foster Innovation, Speed, and Performance

The above barriers to success will take a concerted effort to overcome, but there are six conditions that give innovation, speed, and performance a fighting chance in government.

Condition One: Set clear goals for speed and performance. It sounds basic, but it is hard to do in government. One of the biggest intellectual challenges is setting goals for a program or organization that has minimal control over the outcome. This is a good time to remember that there are very few things over which we have total control. But the sphere of influence we do have, especially in government, is profound. That is why it is so important to be very, very clear about what it is we are trying to achieve.

Whether it's innovation in internal management, medicine, science, technology, energy, diplomacy, criminal justice, or any other imaginable mission of government, the first step is clarifying what it is you are trying to accomplish. And it's not activities or output, but outcomes that are most important. Outcomes are the results a program is designed to achieve. And we should assess our progress toward those outcomes in quantitatively measurable terms using a reliable source of data. Of course, just setting the goals is not enough. To really spur innovation, you also need intermediate targets for incremental improvements in performance and the speed with which you hope to achieve them.

Fostering innovation, speed, and performance in government is not the impossible task it seems... Public service is about doing big, important things for the citizens of the United States.

Condition Two: Be completely transparent about how well you are (or aren't) doing. Report widely and accurately how well you are achieving your goals for performance and speed. There are lots of reasons federal agencies give for not sharing too much. There are privacy concerns, political concerns, fairness concerns . . . lots of excuses for not being totally transparent about goals and progress. They're all cop-outs. In my experience, one of the surest ways to ensure that goals are taken seriously is to be completely open about what your goals are and the progress (or lack thereof) we are making. Openness lets your potential critics know what you're up to and why you've made the decisions you have, depriving them of anything to complain about. The understanding that speed and performance results will be reported widely, especially in the public sector, drives people to action.

Condition Three: Promote or hire good leaders who are experienced and invested in good management. Although it may sound trite, the quality of leadership is among the most important factors that determine an enterprise's success. When the Partnership for Public Service and Grant Thornton interviewed federal agency performance improvement officers, they told us that "[t]he importance of leadership in improving the government's performance management was [their] area of greatest consensus." Leaders who cared about performance and management created a culture in which everyone cared about performance and management.

To foster innovation, speed, and performance, you need leaders with the experience to manage large, complex organizations and a commitment to invest the time and energy in the sometimes dull and thankless work of monitoring and managing a program's or project's success. A leader can ensure that people are held accountable for their progress while also ensuring that risk-taking, even if it results in failure, is recognized and rewarded. Members of a team will push a lot harder and take greater risks if they know their leader has their back.

Condition Four: Hold leaders and their teams accountable. One of the most frequent complaints about government is its lack of accountability. It's true that too few are held accountable for their performance. Accountability is more likely in a framework in which there are clear, transparent goals. That doesn't mean people should be unfairly punished for failing to achieve targets. They should have a good explanation for the shortfall and, perhaps more important, what they are going to do to improve. As former New York City Police Commissioner William Bratton is famous for saying in the context of his highly touted, crime-reducing CompStat, "No one ever got in trouble if the crime rate went up. They got in trouble if they did not know why it had gone up and did not have a plan to deal with it."

A major part of accountability is knowing who is responsible for doing what. Goals and plans should have clear assignment of responsibility. Those responsible should be identified with and invested in the achievement of a goal or plan and should be able to answer basic questions about how a program is performing and what's being done to improve it. They should be rewarded for its success and held accountable if goals go unmet. "Held accountable" is not a euphemism for being fired or losing pay. It should be clear, though, that success is rewarded and failure requires explaining and often changing course.

Condition Five: Celebrate risk-taking. If we are going to achieve the breakthrough performance we hope to achieve, we need to encourage our people to take big risks that will often result in failure. Not all attempts at innovative ways to achieve aggressive goals for speed and performance will work. Those who take risks and fail are likely the ones who will try again and succeed. That's why when people fail, we should celebrate it, learn from it, and move on. If our people are being treated unfairly as the result of meaningful risk-taking, leaders should stand up for them and protect them.

Former Department of Commerce Secretary Gary Locke told an audience at the Partnership for Public Service, "[O]rganizations that fixate on failure never take the risks necessary to achieve the extraordinary." He continued, "I have never faulted an employee for falling short of a goal that was difficult to reach. What is important is working diligently. What is critical is constantly challenging ourselves to perform even better." Gary Locke is a leader who understands the need to create an environment in which risk-taking is not only permitted, but encouraged.

Condition Six: Collaborate to achieve goals faster. There is no program in the federal government that does not depend on numerous other programs, agencies, or entities for its success. And many of those programs could be barriers to improvements in performance and speed. Consider the inventory of duplication GAO puts out every year. In its 2011 annual report inventorying the extent of duplication among the government's programs, what GAO found was mind-boggling: "[t]here are 32 areas in which [GAO] found evidence of duplication, overlap, or fragmentation among federal government programs." Among them: nine federal agencies charged with food safety, 53 programs designed to assist entrepreneurs, 50 programs promoting employment for people with disabilities, and 21 government programs that play a role in preventing and detecting smuggling of nuclear materials and illicit trafficking of related technologies overseas.

If you want to get something done in government, you're probably going to have to work with someone outside your program, perhaps even outside your agency. Sometimes, these programs are working at cross-purposes, competing for resources, or getting in the way of success. Working together—collaborating toward improvements in speed and performance—can illuminate barriers to improvement and more important, highlight different, better, faster ways of achieving goals.

The complexity at the federal level is multiplied exponentially, of course, when you have to work with state and local entities to accomplish your objectives. Territorial jealousies should be checked and collaboration with other agencies and programs and state and local government entities is a must. Establish shared objectives and clearly define roles and responsibilities among different partners. Invariably, from this collaboration will develop a better way of getting the job done.

Conclusion

As I write this, creating the conditions for innovation, speed, and performance seems a whole lot easier in theory than in practice. It's simple to say we should celebrate-risk taking, but the ramifications for failure in the public sector may be harsh. It's easy to suggest we need good leaders when few have the desire to focus on the mundane demands of management. And collaboration is a nice word, but having to get so many players on board with a plan is easier said than done.

But public servants don't come to work each day because the job is easy. Public service is about doing big, important things for the citizens of the United States. And if we're going to achieve such big things, we need to do the hard work of setting clear goals, insisting on transparency, developing strong leaders, creating a culture of accountability, celebrating risk-taking, and collaborating with others outside our cocoon. These steps won't guarantee success, but they will surely make it more likely.

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PART TWO

Using 21st Century Tools to Deliver Fast Government



7. Using Game-Based Approaches to Engage Citizens and Deliver Public Services

By Nicole Lazzaro

Introduction

The Obama administration has challenged federal agencies to meaningfully engage the public to provide ideas, insights, and comments on new policies and existing services to make them more citizen-centric. The administration's Open Government Directive asserts: "Public engagement enhances the Government's effectiveness and improves the quality of its decisions."

Many agencies, however, are finding that few citizens are participating in their initiatives. Even the White House's "We the People" petition initiative has found that most of the petitions submitted have been frivolous, supporting building Death Stars and nationalizing the troubled Hostess company, maker of Twinkies.¹ The White House Open Government Initiative is also seeking to engage citizens in other ways, stating: "Collaboration actively engages Americans in the work of their government." As part of these initiatives the isolated successes, such as agency-sponsored contests and prizes for innovations developed to solve public challenges,² include the development of games.

In its second term, could the Obama administration do more to incentivize greater participation and collaboration by citizens in ways that ultimately increase citizen support for government activities and thus reduce the time it takes to explain and defend programs throughout their life? The answer is yes. One new approach could be the increased use of game-inspired thinking in the design of public services. If crafted appropriately, applying the lessons from the thinking used in designing games could have the potential to transform how government communicates, provides information, and delivers public services. It may seem odd that fanciful petitions such as building a Death Star gained so many signatures on social media, but when viewed as a game, it is clear that positive, amusing emotions are generated by signing these playful petitions. This raises the question of whether positive emotions and a playful approach can increase participation in government programs and perhaps provide some of the services themselves. While some government objectives can be reached with full-on games, using game thinking as a pattern when designing interaction has the potential to increase engagement in actions and public discussion. Games have been called the new medium of the 21st century. For example, a 2011 *Wall Street Journal* article reports that participants have spent more than 50 billion hours playing one popular game, World of Warcraft.³

1. David Nakamura, "The Right to Petition the White House Prompts Grievances, Gags Online," *Washington Post*, December 10, 2012. http://www.washingtonpost.com/politics/the-right-to-petition-the-white-house-prompts-grievances-gags-online/2012/12/09/c9adf3fc-3f10-11e2-ae43-cf491b837f7b_story.html

2. Cristin Dorgelo, "Challenge.gov: Two Years and 200 Prizes Later," White House blog accessed at: <http://www.whitehouse.gov/blog/2012/09/05/challengegov-two-years-and-200-prizes-later>

3. Jane McGonigal, "Be a Gamer, Save the World," *Wall Street Journal*, January 22, 2011 accessed at: http://online.wsj.com/article/SB10001424052748704590704576092460302990884.html?mod=WSJ_newsreel_lifeStyle

Although games can be seen as a distraction and waste of time, inspiration from game design thinking provides an opportunity to improve the way public services are designed, approved, offered, and used. “Gamification” of systems using point systems and rewards, such as badges, can increase participation. Game thinking applied at each citizen touch point is an opportunity to increase engagement and adds motivation to participate. Game approaches can involve citizens in new ways, building understanding of and support for programs and thus reducing time and resources needed for implementation at later stages.

There is an opportunity to use game thinking to playsource human engagement. Games already teach the political process, such as the iCivics’ game [Win the White House](#). A generation that grew up playing digital games is now coming of age, ready to engage in the political process. Raised in an ocean of interactive media, games, and advertisements, this generation expects more than downloadable PDF brochures and passive websites. They expect more participation and influence in information delivered via technology. Game-inspired information technology can be a powerful organizer of human action and engagement in the face of enormous national challenges, such as AIDS, obesity, education, and climate change. For additional subject areas that game designers are already addressing, visit the [Games for Change](#) website. Government can now deliver game-inspired public services on mobile devices like smartphones, and on desktop and laptop computers.

Game approaches can involve citizens in new ways, building understanding of and support for programs and thus reducing time and resources needed for implementation at later stages.

How Could Gaming Design Thinking Be Used to Solve Public Challenges?

Games are self-motivating systems and for the past 30 years game designers have evolved interactive techniques to generate emotion, support performance, encourage problem-solving, develop systems thinking, change behavior, and increase engagement. The power of games to engage users and hold their attention comes from specific designs created by game makers that allow players to make choices while playing. As veteran game designer Sid Meier says, “Games are a series of interesting choices.” Therefore, the focus of applying game thinking should be to borrow game design techniques in order to make citizen choices more interesting and engaging. Game designers craft emotions, situations, choices, and feedback that create the opportunity to change the way that players think, feel, and behave. Interactive design inspired by game thinking can tap into human emotions to more effectively create policy, systems, and institutions that drive behavior. With the increase of public information and services delivered electronically, the engagement language of games can be applied to the design of interactive services, allowing public services to be provided in new ways.

Twenty years of research by one game design firm, XEODesign, found that games create their legendary engagement in four ways. People play for:

- Hard fun (challenge)
- Easy fun (novelty)
- People fun (friendship)
- Serious fun (meaning)

We call these the Four Keys to Fun and they are the secret behind how a player's favorite moments in games create engagement. Best-selling games have at least three out of the four keys to fun and players move between three of the four in a single play session.⁴ Offering a variety of interactive styles lets players experience a wider variety of emotions and stay engaged longer. Gaming uses many engagement techniques to make multiple types of activities fun. Therefore game-inspired services delivered on various platforms offer the opportunity to increase public engagement and to redesign public services.

Using Gaming Technologies to Increase Public Engagement

Game-inspired services delivered on social mobile platforms have already transformed how people participate and shape the political process. The number of people who follow or like a post becomes a point system in the "games" of Facebook or Twitter. Joining political discourse through social media has lowered the barrier to entry (simply open a web browser to protest or comment), while at the same time increasing feedback for how influential an individual contributor can be. To gauge public opinion, as well as to participate in public discussion, federal agencies now actively participate in social media. Adding game mechanics to social media will increase their viral effects.

Mobile technology that is increasingly socially inspired by game mechanics provides the opportunity to rethink the way government engages with citizenry and design new, more participatory systems of government. Interactive social games provide governments with new channels to hear from and be influenced by the people they represent.

Using Gaming Technologies to Redesign Public Services

Game-inspired thinking has the potential to redesign the delivery of public services. In the way that [Craigslist](#) replaced newspaper want ads or [Wikipedia](#) replaced the *Encyclopedia Britannica*, it's possible that a social game played by millions could deliver one or more government services. For example, [Zooniverse](#) harnesses the power of "citizen science" to systematically collect data and analysis by a network of hundreds of thousands of volunteers. It employs quests, puzzles, and research activities to create a resource for inquiry-based education tools. In the future, engaging social or simulation games could deliver a variety of public services, ranging from providing health information and emotional support to planting trees in urban areas. Games have the potential to deliver selected public services at a higher quality and at a lower price. In some cases, games can provide services that government has historically provided by traditional delivery approaches. Game thinking can offer interactions and feedback to participants, increasing engagement and making the process more rewarding. In the future, information services, such as career training and job placement, could be gamified in a social way, as in job interview preparation games: http://www.ehow.com/list_6020349_interactive-job-interview-games.html

4. Lazzaro, Nicole, "Why We Play Games: the Four Keys to Fun," White papers on emotion and the fun of games: <http://4K2F.com>

Games in Action: Inspiring Healthy Lifestyles

One policy area in which games could have a major impact is inspiring healthy lifestyles. The federal government's crowdsourcing innovation website, [Challenge.gov](http://challenge.gov), has already supported the development of games that have now been launched. Examples of results from Challenge.gov competitions are presented below.

Information on nutrition can improve health. Game-like interaction with health information has the potential to inspire changes in diet and exercise that could combat the rise of obesity in children and diabetes in adults, now at epidemic levels. Government can provide important information and motivation in the context of a game. Information delivery is just the first step in improving health. A second step is behavior change. Nutrition games can help people take that information and reward players for turning the information into action. Weight Watchers 360° is a point-based behavior modification game stemming from the research of B.J. Fogg (<http://www.weightwatchers.com/plan/apr/index.aspx> and <http://bjfogg.com>).

In the best of these types of games, players must master the content and change their behavior to succeed at playing the game. Games can inspire curiosity to learn more and experiment with new, healthier choices without sounding preachy. In addition to raising awareness on how to eat better, games can make it fun to take action and change behavior.

Games can provide information on nutrition. Games can enhance each stage of the nutrition cycle, from planning menus to shopping for food and putting it on the table. For example, future interactive information services, such as the [Choose My Plate](#) eating guides to better nutrition, can tap into the contents of one's refrigerator or grocery bill. Game-like design can inspire and challenge a player to make new choices and track their progress, find social support, and make their accomplishments through game play more meaningful, last longer, and

Challenge.gov: Apps for Healthy Kids Challenge

(Sponsored by the Department of Agriculture)

Description of Competition: The Apps for Healthy Kids competition is a part of First Lady Michelle Obama's Let's Move! campaign to end childhood obesity within a generation. Apps for Healthy Kids challenges software developers, game designers, students, and other innovators to develop fun and engaging software tools and games that drive children, especially "tweens" (ages 9–12)—directly or through their parents—to eat better and be more physically active.

Winners:

- **Pick Chow!**, a website that allows children to create meals by dragging and dropping foods onto their virtual plate with a meter showing the nutritional values as well as a meal rating in a fun and easy way.
- **Trainer**, a game that gives the player the responsibility of caring for creatures that all have dietary and fitness needs.
- **Work It Off**, a mobile application for Android phones, teaches children the correlation between the calories they eat and the calories they burn.
- **Tony's Plate Calculator**, an online tool that can help you calculate the nutritional values for a single item, an entire recipe, or a full day's worth of food.
- **Food Buster**, a game that asks you to carefully stack food items that don't break our scale. For each round you'll try to find foods with the fewest calories, least added sugar, and least amount of saturated fat. The fewer the calories, the more points you'll get.

connect with real-world change. At the point of purchase, players can make moves in the game where they see the nutrition content of their bags of groceries printed on their receipt. There could be customized pie charts tuned to meet the person's individual health or nutrition goals and compared to the national recommendations. In the future, a heads-up smartphone display or a code entered on the game's website could display progress. Augmented-reality mobile games played in the grocery aisle or checkout stand can dynamically show the combined effect of nutritional content of food from scanning the UPC with a smartphone. This could be done before or after purchase. The game could analyze the groceries on the counter for their nutrition content or from a photo taken of a meal.

Games can spark curiosity about nutrition choices. In addition to challenging players to achieve specific health goals, games can also inspire curiosity by encouraging exploration with opportunities to combine foods to reduce fat and calories and increase nutritional value. Players can enter their favorite recipes and get real-time feedback on the nutrition profile of their choices. Games can challenge players to find the secret ingredient or add an extra nutritional boost to a meal. With additional analysis, games could suggest ways to complement a protein or reduce fats and sugars. The environmental impact or the sustainability index of food offer other ways for players to win the nutrition game. For citizens participating in the Supplemental Nutrition Assistance Program and the Women, Infants, and Children (WIC) nutrition program, feedback could be targeted toward the nutritional goals behind the program. In addition, more information about both price and nutrition could make benefits stretch further.

Interactive simulation games can now show the effect of nutrition and other health choices over time. Games can track changes in exercise or eating habits and offer relaxation techniques. To increase engagement, the quality-of-life impacts of health care and preventative care decisions can be visualized with humor and style. These games illustrate the effect of simple shifts in diet, such as adding steamed veggies to a meal to reduce fats. For example, kids can do virtual food shopping and meal planning in Nourish Interactive's [Ride the Food Label](#) game and [Build a Meal game](#). Fun 3D fly-throughs and role playing can also increase comprehension and compliance with medication such as with the cancer-fighting educational game called Remission by Hope Labs. This game is a first-person shooter where players learn about their cancer medications by flying through a body on cancer-fighting missions. To increase activity along the lines of First Lady Michelle Obama's Get Up and Move, games such as [Zamee](#), also by Hope Labs, have been shown to increase kids' physical activity by 59 percent.

Social games can connect communities of people with similar health goals. Social games played on social networks, such as Facebook or Twitter, can also connect like-minded individuals to commit to change their behavior or lifestyles by stopping smoking or losing weight, for example. The development of interactive preventative services provided electronically can increase the effectiveness of brochures or websites of best practices in promoting healthy lifestyles. Social games can connect people online and help them find a support network in the local community. Social games can be designed to be self-organizing, where people help each other and connect on a volunteer basis, further reducing the need for government resources. Taking this one step further are games that create and deliver services through self-organizing (a combination of meetups and support groups), providing social support and feedback at a very low cost once the platform is built. The combination of real world meetups and just-in-time support access on a mobile platform has the potential to provide affordable treatment options. As an added benefit, social emotions between players require and build trust. Building a trust network around a public institution can have a spillover effect and increase trust in that institution as well.

Games can provide real-time feedback on healthy behaviors. Games have been proven to provide long-term outcomes. Games can encourage healthy behaviors with real-time feedback,

competition, and cooperative mechanics to make exercise more fun. They can show long-term outcomes and make normally invisible processes easy to see. In fact, games that target exercise already exist. To increase interest in exercise, a watch with progress meters and graphs such as Nike+ FuelBand helps players reach their goals. In addition to being reminded of an individual's commitment to exercise every time a player checks the time, the watch makes it easy to record stats and graph progress toward fitness goals. A social game can bring in friends' times and individuals can compete side by side with their times, even when running on their own. Fun themes can be seen in games such as those featuring individuals being chased by zombies, training as an Olympic athlete, or getting coached by a real Olympic athlete. [Zombies, Run!](#) humorously maps the desired behavior (speed of running) with the fiction of being chased by zombies to provide lighthearted motivation. With the promise to get fit, escape zombies, and become a hero, players must run fast enough to outpace the zombie horde through interval training, including training for a 5K race. Fun fantasies, points, and progress feedback help people get up and move.

The context established by a game, whether a zombie chase or caring for and feeding veggies to a virtual pet dragon, increases excitement; the real-time progress offers players a hope of achieving accessible stages of success. The surrounding fantasy and enhanced encouragement for these nutrition and health games change the emotion profile of the activity, making it more engaging, more memorable, and encouraging. Games can change behavior by changing the emotion profile of what the player wants to achieve. This success spills over into real life. Inspiring more long-lasting behavior change is best done in short sessions every day, which is the perfect format for a mobile game. Because a person's smartphone is always with them, mobile games provide just-in-time experiences and training when played 15 minutes a day.

Conclusion

Applying the thinking used to design games in more serious ways can transform how government communicates, provides information, and delivers public services. Game design can inspire new types of interactions to provide information, inspire action, increase motivation and feedback on long-term progress, and reduce the time needed to implement those processes. Play-sourcing games can inform, change behavior, and even create real-world change. Games do this in three ways:

- **By informing players** with interactive demonstrations of concepts and themes rather than just requiring listening or reading
- **By encouraging practice and exploration of outcomes** unfeasible in the real world
- **By informing, motivating, challenging, and rewarding new behaviors**

At their best, games break down complex relationships and processes into easy-to-achieve steps. They can make practice fun. Games can organize human behavior and shape patterns to transform communities. And finally, games raise awareness more than a website or brochure does, and because they are about choice, games can inspire and motivate the actions that we need our nation's citizens to take.

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8. Using Mobile Technology to Build a Government on the Go

By Tom Suder

Introduction

Imagine a government that can respond to its citizens and its workers in entirely different ways, reducing cycle time and cost and increasing efficiency and service quality:

- What if benefits came to citizens via smartphone, enabling them to find out easily which of government's myriad benefits they might be eligible for, or to get real-time updates to claims they submitted?
- What if government field workers could access and input any information from citizens on a handheld device, in-person and in real time?
- What if an injured veteran returning from overseas could file and monitor a claim from a handheld device? What if the same device could also remind the veteran when to take medications, or allow a video consultation with a doctor anytime, anywhere?
- What if there were no need to visit a Social Security office and wait in line because a question could be answered by a video chat?
- What if responses to the next natural disaster could be tracked and coordinated through mobile technology? Citizens could be equipped to be first responders, uploading pictures of structural damage to dams and other infrastructure; emergency crews could be deployed by proximity and save lives; supplies and food could be tracked and redirected in real time.

These visions of the future are achievable today. The country is embracing mobile technology faster than it has adopted virtually any other technology innovation in history. The Apple iPad was released in 2010 and the tablet is changing the way consumers digest information. Apple released the iPad Mini in late 2012 to specifically address, among other things, the desire to put a smart tablet into a coat pocket or purse. Since the iPad was introduced, numerous other manufacturers such as Samsung and Lenovo and operating systems such as Android and Windows Mobile 8 entered the game in many shapes and sizes. Enterprise service providers like IBM have established entire practices devoted to leveraging mobile devices and systems; Amazon released the Kindle using its own version of Android, and Microsoft released a new tablet called Surface.

In a report on the use of mobile technology released by Pew Research Center's Internet and American Life Project in October 2012, 22 percent of all adults in the United States say they now own a tablet. Two years ago, the adoption rate was four percent. It is believed that during the 2012 Christmas season, this number may have reached 30 to 35 percent. The tablet is indeed one of the fastest adoptions of technology in history.

As the general public has rapidly embraced these various forms of mobile technology during the past five years, federal agencies are now adapting the way they do business to take advantage of the opportunities new mobile technologies present for reducing the time and cost of government

operations. As a first step, President Obama released a Digital Government Strategy in May 2012 to begin laying the groundwork for the federal government to develop an infrastructure to support the use of mobile devices and offer services through these devices.

Creating a Citizen-Facing Mobile Services Delivery Strategy

The President's 2012 Digital Government Strategy sets out to accomplish three objectives:

- **To enable the American people and an increasingly mobile workforce both in the general population and within government itself to access high-quality digital government information and services anywhere, anytime, on any device.** The emphasis of the strategy document is on the information, not the technology. By emphasizing an information-centric approach, government agencies can design interoperable, open systems and modernize their content publication model, thus delivering better, device-agnostic digital services at a lower cost.
- **To ensure that as the government adjusts to this new mobile digital world, it can seize the opportunity to procure and manage devices, applications, and data in smart, secure, and affordable ways.** Based on lessons from the e-government transition of the early 2000s, when government information and services were moved online, government now has an opportunity to:
 - Break free from the inefficient, costly, and fragmented practices of the past
 - Build a sound governance structure for mobile digital services
 - Do mobile right from the beginning
- **To create a path to unlock the power of government data to spur innovation across our nation and improve the quality of services for the American people.** Early digital strategies—such as those developed when the World Wide Web came into prominence in the mid-1990s—were completely uncoordinated, sometimes within an agency itself, with government working in silos and making the same mistakes over and over again. A big part of the Digital Government Strategy has been to share best practices and work to establish government-wide guidance from the outset. The focus on the Digital Government Strategy from the beginning has been on the customer. In the case of outward-facing services, the customer is the citizen. From the inward-facing perspective, the customer is the individual federal employee.

In 2010, the General Services Administration (GSA) set up a mobile apps gallery to incubate the development and sharing of government apps so agencies would not be designing them on their own for their own uses. Over 260 government apps were created and uploaded to this gallery (<http://apps.usa.gov>).

... federal agencies are now adapting the way they do business to take advantage of the opportunities new mobile technologies present for reducing the time and cost of government operations.

Creating a Government-Facing Mobile Strategy

The early success of citizen-facing mobile initiatives highlighted the opportunity to change the way government does its business—and speed service delivery—by adopting a mobile digital strategy internally. A government-industry working group developed a series of papers outlining steps agencies could take.

Allow employees to use their personal devices. Often called Bring Your Own Device (BYOD), this policy approach short-circuits the traditional approach of government agencies having to procure, manage, and track technology equipment themselves. The administration released guidance in August 2012 as a “toolkit for agencies contemplating implementation of BYOD programs.” Three government organizations—two federal and one state—were cited in the toolkit for their BYOD efforts:

- The Department of the Treasury’s Alcohol and Tobacco Tax and Trade Bureau created a virtual desktop that allowed a BYOD solution with minimal policy or legal implications.
- The U.S. Equal Employment Opportunity Commission (EEOC) was among the first of several federal agencies to implement a BYOD pilot that allowed employees to opt out of the government-provided mobile device program and install third-party software on their own smartphones that enabled the use of their device for official work purposes. EEOC instituted a voluntary policy for BYOD among employees who had been issued an EEOC-provided BlackBerry at a cost of \$80 per user. Basically, personal devices could be used at the employee’s own expense, but the employee would forgo the government-issued device. A total of 27 percent of EEOC employees took the BYOD option.
- The state of Delaware initiated an effort to not only embrace the concept of BYOD but to realize significant cost savings by having employees turn in their state-owned device in favor of a personally owned device, which could save the state approximately half of its current wireless expenditure.

Develop government enterprise apps (GEAs). GEAs are doing-your-job apps for the government worker. They can include areas such as field services, internal collaboration, internal training, case management, and the creation of digital libraries. For example, field services can range from simply replacing a clipboard data collection system that includes an “I have to file my paperwork at the end of the day” component to a robust law enforcement case management system that is available at one’s fingertips rather than back at the office or in the squad car.

These types of apps not only provide information when government workers need it, but can also reduce duplicative data entry with its attendant errors. GEAs also have introduced new possibilities to the government worker. Blue Force Tracking, a military term for a GPS enabled application for locating people in the field, can assist agencies in deploying personnel more effectively. Knowing where all your people are at any given moment is a safety issue, as well. Delivering technical or other training in bite-sized parcels to be easily fit into the schedule of the user is another promising area for the use of GEAs.

GEAs can be developed at a fraction of the cost of the traditional desktop application. The information-in-the-palm of your hand argument is compelling. Research and practice are showing that GEAs allow the user to do more of whatever they are doing, whether it is collecting data or providing training.

It is impossible to deliver game-changing applications to mobile devices without an infrastructure in place to support it. Recently, the Department of Agriculture and the Department of Veterans Affairs (VA) have awarded contracts to build mobile device management/mobile

application store infrastructures to support their respective agencies. The Defense Information Services Agency (DISA) is currently trying to award a contract to build a similar infrastructure in the defense environment. Meanwhile, the VA is also wiring all its facilities—including its hospitals and nursing care facilities—with WiFi to allow veterans and employees connectivity to their mobile devices. The Pentagon recently did the same thing, but is also looking to add an in-building cellular component in 2013.

Other examples of agencies making significant progress in using mobile technologies include the Federal Air Marshals Service, which has created a mobile Web app allowing its marshals to access its systems; and the Nuclear Security Administration, which has developed an app allowing its employees to track nuclear materials.

Implementing a Government-Facing Mobile Strategy

One element of the President's 2012 Digital Government Strategy was to “evaluate opportunities to accelerate the secure adoption of mobile technologies into the Federal environment at reduced cost.” A small “tiger team” of agency experts from across the government came together and identified three benefits that a mobile strategy would offer:

- Enhanced mobility and quicker access to information for a user population that is dispersed nationally and internationally
- The ability to provide previously unavailable services and applications to support mission operations in the field
- Increased resilience regarding concerns about relying on a single smartphone vendor

The Strategy identified three factors that agencies should consider:

1. Capabilities. What capabilities or functionality and mission needs will be supported by the new technology or devices? The group recognized that mobility has the chance “to present opportunities to enable a mobile workforce and deliver information and services to customers, partners, and the public, improving the ability to accomplish the agency's mission.”

It also noted that some of the barriers to capabilities were “technical limitations focused on the pace of technological change and relative immaturity of the product space, including ‘mobile device management’ (MDM) solutions, mobile application stores, and the variety of device configurations.” In addition, it raised the lack of ubiquitous wireless connectivity “as a barrier to delivery of web applications and a virtualized desktop, since both require a continuous network connection.”

Ultimately, as agencies put the necessary infrastructure in place, mobile devices will offer the possibility to really change how government does its business.

2. Cost. What would be the total cost of ownership—which includes planning, acquisition, and operations and maintenance costs? This is a big issue in any agency these days, and the group determined that there were two interrelated barriers:

- **Need for an accurate cost-benefit analysis model.** Developing an accurate cost-benefit analysis is always a challenging issue to any government agency, and price models with mobile are rapidly dropping as the Mobile Device Management-Mobile Application Store (MDM/MAS) becomes a commodity.
- **Need for a government-wide contract vehicle.** Fortunately, the lack of a government-wide contract vehicle is being addressed by both the General Services Administration (GSA) and the Defense Information Services Agency in separate contract vehicles. GSA is expected to

award a Wireless Federal Strategic Sourcing Initiative shortly while DISA is expected to do the same with its MDM-MAS.

3. Security. How can agency leaders be assured that any security risks in moving to a mobile strategy can be managed effectively? The Strategy highlighted a number of important gaps that currently exist in various areas. These gaps need to be addressed to enable more effective use of mobile technologies to meet government missions. The gaps include:

- **Security and privacy.** Gaps exist between federal security and privacy requirements and the availability of commercially developed products that implement the required protections. These include:
 - *User authentication:* Lack of a robust user identity authentication mechanism that complies with federal mandates and maintains mobile device ease of use
 - *Data encryption:* Growing need for validated, secure, and efficient cryptography suitable for mobile devices
 - *Application security testing and evaluation:* Lack of automated tools for efficient assessment and authorization of mobile applications
 - *Device sanitization:* Lack of agency processes and tools to follow requirements on device sanitization.
- **Policy and legal issues.** There will need to be a continued focus on ensuring that existing policies accommodate agency needs in a mobile environment, including:
 - *Guidance and best practices for mobility:* More robust engagement mechanisms should be created to help share best practices for mobile devices and supporting tools across the federal enterprise
 - *Business and technical requirements:* Lack of identified mission use cases and technical requirements that are consistent across the federal landscape
 - *Legal:* Lack of legal precedence, policies, or guidance established on electronic discovery of information on mobile devices related to mixed official and personal use for both Government Furnished Equipment (GFE) and BYOD (e.g., compensation, liability for data or equipment loss, etc.).
- **Application and infrastructure.** Gaps exist between the goals of supporting multiple devices and the cross-platform infrastructure needed for applications and devices:
 - *Legacy applications:* Lack of compatibility and ease of use accessing legacy applications from mobile platforms has hindered access to data and the overall transition to mobility.
 - *Infrastructure for mobile devices and mobile application distribution:* Lack of cross-platform compatible industry solutions that satisfy government authentication, security, and management requirements
 - *Network connectivity:* Lack of adequate wireless data network through WiFi or cellular data to always allow networking capabilities for the mobile worker relying on mobile applications

As discussed above, there are many disparate issues involved in implementing a mobile work environment in government, but there are answers to every specific issue that exist today. The challenge for an agency is to work all the issues in parallel and not consecutively. For example, you can't work all your policy and legal issues, get your app's security solution solved, and then have no useful capability because you don't have WiFi in any of your facilities!

A Checklist for Implementing Government Enterprise Apps (GEA)

GEAs have the potential to change the way the government conducts its business internally, but they encounter many barriers such as security, human capital, policy, technology, and infrastructure.

Some of the questions that agencies have to answer include:

- How do I monitor and credential devices on my network?
- How do I set up an internal enterprise app store? Who runs it?
- How do I set up ubiquitous wireless connectivity in all my facilities? More importantly, how do I pay for it?
- How does working with smart devices affect my older workers? Are there any union issues?
- Can I support a Bring Your Own Device (BYOD) Strategy?
- What capabilities should I use to go mobile?
- How do I secure the devices? How do I ensure the apps don't contain malware?
- How do I interface back to my legacy systems using Application Programming Interfaces (APIs)?

The Potential Impact of the Digital Government Strategy on Improving Government Operations

The Obama administration understands the difficulty of implementing a digital mobile strategy and is working to solve problems and share best practices. It created a working group in 2011 to look at the following areas of opportunity for improving mobility within the federal government:

- **Mobile device management.** Improvements in tools and processes are necessary to support enterprise-level configuration management and controls for federal agencies.
- **Application services.** Better tools and processes are needed to accredit and distribute applications required for government missions, leveraging commercial market cycles, and commercial and federal application stores. The National Institute of Standards and Technology will soon release guidelines that provide a methodology for testing and vetting third-party applications that are distributed through various federal agency-operated app stores.
- **Identity access management.** The use of Personal Identity Verification (PIV) standard for user authentication has not yet been adopted for mobile technologies.
- **Improved governance and standards.** The federal government must work collaboratively with industry to bridge the security gaps present in today's smartphones, tablets, and other mobile devices, while continuing to identify policy and legal issues that may need to be addressed to accommodate these new technologies and better fulfill agency mission requirements.

Each of these issues is being addressed by various working groups within the federal community. The identity access management issue may be the most difficult to overcome philosophically. As agencies unroll PIV cards to ensure proper identity management on desktop and laptops, this solution does not lend itself to going in a new direction ... such as the smartphone itself being the identifying mechanism.

Conclusion

Mobility offers many possibilities for an agency to enhance its mission, reduce the time it takes to serve citizens, and save money. Here are three of the top things that federal executives should do if they want to create a truly mobile-first environment in their agency.

- **Collaborate internally and externally.** No department or agency can have all the answers in a new technology that is changing very fast. Agencies should set up a structure internally to collaborate on mobility. For example, in the Department of Justice it makes sense for those offices that have similar types of missions to share information and possibly procurements. The department recently had a mobility summit to share ideas and best practices.
- **Move from pilot to production.** The purpose of a mobility pilot should be to go to production. The DoD has had at least 50 mobile pilots, but until organizations have a plan to institutionalize the capability, these pilots will dead-end at some point. Instead of a “Rogue Pilot,” it would be best to work with all the stakeholders that can bring to bear all the elements of mobility. Then issues can be worked in parallel.
- **Identify executive champions.** It is almost impossible to do anything in an organization without executive support, but this is especially true in the case of mobility, a new technology that changes the way business is done in so many ways. This isn’t just an IT issue. It touches almost every aspect of an organization with many legal, workforce (union), cultural, mission, security, privacy, procurement, and funding issues.

Tom Suder is President and Founder of Mobilegov, a company that provides cutting-edge mobile solutions to its customers. In addition to his work with Mobilegov, Tom is also Strategic Advisor to the University of Central Florida’s Institute for Simulation and Training.



9. Smarter Supply Chains: Helping Government Move Better and Faster

By Robert Luby and Tom Glisson

Introduction

The world is changing rapidly, profoundly, and in every direction. For the U.S. federal government, an increasingly challenging political and fiscal environment provides a powerful catalyst for supply chain transformation. In the private sector, political and economic fallout from the 2008 financial crisis have driven commercial enterprises to intensively reevaluate their supply chains and apply top talent to redesign and improve processes, develop new tools and solutions, and quickly implement change to deliver immediate results and become more efficient.

The flurry of private security activity has produced a wealth of lessons learned and best practices, along with an impressive portfolio of new tools and technologies to accelerate and improve transformation. By applying these latest developments, the federal government has a unique opportunity to implement a world-class, smarter supply chain that can meet the challenges of today and capitalize on the opportunities of tomorrow.

Results from modern supply chain initiatives have been impressive and have clearly transformed many businesses and industries. There are several examples, but we highlight two that offer great opportunities and the possibility of substantial near-term results:

- **Enhanced procurement and strategic sourcing.** GAO has reported that the government is not fully leveraging its aggregate buying power. Many companies have enhanced their procurement processes and have aggressively implemented strategic sourcing and commodity councils. These commercial companies routinely manage over 90 percent of their procurement spend via strategic sourcing and commodity councils; they report savings of 10 percent or more. Major leading companies, including IBM, have used strategic sourcing and associated commodity councils for several years, at times achieving savings approaching 20 percent of procurement spend. In contrast, the federal government has adopted the Federal Strategic Sourcing Initiative (FSSI). Most agencies have actually decided not to adopt this program. Those federal agencies that have attempted strategic sourcing report savings of less than one-half of one percent of procurement spend. Additionally, they only leverage a small percentage of their procurement spend. There is great opportunity in this area. FSSI deserves senior leadership attention and a focus on managing procurement spend via commodity councils and known strategic sourcing techniques.
- **Modern transportation and distribution systems.** Several companies have worked with third party logistics providers (3PLs), shippers, carriers, and other partners to create world-class transportation and distribution networks. The federal government has experienced some initial success in this area via the Defense Transportation Coordination Initiative (DTCI) program at U.S. Transportation Command (TRANSCOM). This program was established to have TRANSCOM partner with a world-class transportation services provider to manage continental United States (CONUS) distribution of freight for selected service and Defense Logistics Agency (DLA) shipping locations. TRANSCOM was able to leverage the existing volume of the transportation provider, with DoD's large freight volumes

using best commercial practices to achieve distribution and associated cost savings. The program to date has achieved \$158 million in gross cost avoidance. These savings have been achieved while delivering the following attractive performance results:

- On-time pickup: 98.1 percent
- On-time delivery: 97.7 percent
- Loss/damage free: 99.7 percent

DTCI demonstrates the potential of a modern transportation and distribution system and the associated savings and performance improvement.

Aggressive pursuit of the two programs highlighted above, along with a focus on the drivers and characteristics of the smarter supply chain described below, can rapidly deliver substantive savings and performance improvement throughout the federal government.

A fully integrated, digitized, cloud-based supply chain management system could make our government supply chains quick, flexible, and highly efficient.

Five Drivers that Improve Supply Chain Management

To navigate the economic turbulence of the last five years, private enterprise has focused heavily on improving supply chain management. Much of this focus on supply chain transformation has been influenced by the following five drivers:

Driver One: Emphasis on customer service. An absolute requirement for any enterprise: understand customer needs and expectations, then deliver the right product at the right place at the right time, every time, at a fair cost with the requisite quality.

Driver Two: Cost control. The key driver in any supply chain transformation effort. Supply chain improvement efforts have been attractive to leaders for the last five years because of the opportunity to quickly deliver results to the bottom line. Identifying the appropriate cost metrics and implementing the supply chain processes and solutions to monitor these metrics in near-real time are a significant part of this challenge.

Driver Three: Supply chain planning and risk management. Modern supply chains must be continually assessed and improved. A recent report by McKinsey comments not only on this need and challenge, but also the current situation: “Many global supply chains are not equipped to cope with the world we are entering,” McKinsey says. “Most were engineered, some brilliantly, to manage stable, high-volume production by capitalizing on labor-arbitrage opportunities in China and other low cost countries. But in a future when the relative attractiveness of manufacturing locations changes quickly—along with the ability to produce large volumes economically—such approaches can leave companies dangerously exposed.” New products, global sourcing, and supply chain security (physical and IT) are only a few of several issues that need to be continually reviewed and assessed.

Driver Four: Enhanced supplier/partner relationship management. Proper relationship management, precise definition of processes, collaboration, and developing trust are key issues for the federal supply chain leader. Limited suppliers for unique items, obsolete weapons platforms, and constantly changing bills of material (BOM) are common in the federal market. Close relationships with suppliers are partners are critical to mitigate these issues.

Driver Five: Talent. Experienced supply chain leaders are vital to success in this challenging environment. This is especially true in the federal arena, where personnel assignment policies and operational requirements often dictate constant movement of key leaders, creating significant challenges in maintaining continuity and in recruiting, developing, and retaining top talent to manage and operate the supply chain.

In this chapter, we explore the nine characteristics of a *smarter supply chain*—designed and structured to meet the challenges described above, while delivering improved performance and return on investment in an increasingly demanding fiscal environment. We then describe a real-world example of a successful supply chain deployment by a federal entity.

Nine Characteristics of a Smarter Supply Chain

While every organization faces unique challenges, requirements, and considerations, most successful modern supply chains share a common core of best practices and characteristics that transcends entity size and nature. These include:

- Efficient enterprise integration
- Well-defined functional integration
- Development of customer-driven processes
- Cloud-based supply chain solutions and tools
- Asset visibility
- Inventory planning and optimization
- Transportation planning and delivery optimization
- Predictive intervention
- Robust and agile information assurance and cybersecurity

While not all-inclusive, the above list comprises those characteristics we have most frequently observed across a broad spectrum of public, private, military, and civilian supply chain management engagements. Moreover, each action on the list can help to reduce the number of steps in a given supply chain, accelerate the time it takes to move from producer to customer, make better and faster design and deployment decisions, and mitigate risks that can impede rapid action—all of which can help the government move faster.

Characteristic One: Efficient enterprise integration. Every single item procured by NASA, the Department of Agriculture, or any of the hundreds of other federal departments, agencies, offices, and commissions, belongs to the public. In a smarter federal supply chain, one with total visibility of assets, inventory management is integrated across the enterprise to not only improve agility and responsiveness but also to eliminate unnecessary redundancy in effort, inventory, and use of scarce funding. Thus, items needed by the Federal Emergency Management Agency (FEMA) for disaster relief could be identified from Department of Defense (DoD) inventory, seamlessly transferred to FEMA control, and efficiently deployed to affected areas rather than FEMA purchasing, maintaining, and distributing its own items.

Case Study: U.S. Marine Corps Global Ammunition Inventory Management

The U.S. Marine Corps' (USMC) global ammunition system, designed in the 1970s and tightly integrated to legacy systems, did not provide the visibility and capability required to meet the dynamic battlefield environment of today. USMC sought to rapidly modernize its existing capabilities without initially replacing or losing integration to existing legacy systems. In addition to a short implementation schedule, the Marine Corps required an extensible platform that would provide for future business transformation opportunities and supply chain capabilities.

The USMC turned to One Network to provide the following integrated solutions and services via its Demand Driven Value Network (DDVN):

- Inventory planning
- Inventory management
- Requisition management
- Lot tracking
- Serialized item tracking
- Master data management
- In-transit racking

By applying One Network technology to its Ammunition Automated Information System (AAIS), USMC was able to achieve total asset visibility across 124 sites with over \$6.4B in inventory. And in impressive time: One Network delivered very competitive supply chain time-to-value, with the primary milestone go-live just five months after contract award. In addition, One Network's smarter supply chain solution reduced transaction error rates from 60 percent to less than one percent, while improving customer satisfaction, maintaining over 99 percent uptime, and reducing total systems costs.

The success of One Network's smarter supply chain implementation led to the Marine Corps being awarded the Department of the Navy Information Management IT (DON IM/IT) Excellence Award.

An integrated federal supply chain also presents significant opportunities for strategic sourcing, virtual supply chains, and supply chain optimization. Enterprise integration on the scale required by a smarter federal supply chain requires modern technical architecture that provides a real-time, responsive supply network that is optimized to concurrently plan demand, supply, and capacity across diverse entities and geographies.

Characteristic Two: Well-defined functional integration. There are numerous opportunities for functional integration throughout the federal government. Processes and cloud-based solutions have been developed to create interdependencies and real-time information-sharing between procurement, manufacturing, supplier, logistics, and end-user activities. Successful functional integration is a vital requirement to meeting the challenge of enterprise integration (Characteristic One).

Characteristic Three: Development of customer-driven processes. Demand planning and demand mastery become a major focus and characteristic of the federal supply chain. A cloud-based "sense and respond" supply chain enables end users to rapidly place orders and

track fulfillment. Proper demand planning also facilitates improved configuration management and modernization of bills of material (BOM). BOM obsolescence is a major challenge for the DoD and other federal entities.

Characteristic Four: Cloud-based supply chain solutions and tools. Next-generation, cloud-based community platform solutions enable real-time planning, collaboration, execution, and business intelligence. Several such solutions are now available, including Dallas-based One Network, which supports over 30,000 companies connected to a unique supply chain network that concurrently manages demand, supply, and lead time variability. Each year, One Network handles over 680 million transactions worth over \$100 billion in retail trade. With a single interface and scalable horizontal grid-processing capability, One Network integrates multiple companies' ERPs to drive optimization on a scale not previously possible. Companies supported by One Network benefit from a real-time value network, "a single version of the truth," which supports end-to-end business process management, compliance, planning, and optimization.

Characteristic Five: Asset visibility. Near-real-time asset visibility is vital to a smarter supply chain, supporting enterprise integration and facilitating:

- Effective shipment planning
- Load consolidation
- Shipment optimization
- Shipment tender
- Contract management
- Carrier management
- Invoice management

In addition, real-time asset visibility improves customer relationship management and contributes to improved inventory planning and optimization.

Characteristic Six: Inventory planning and optimization. Proper inventory strategy, planning, and execution are vital in the federal sector. Excessive and expensive inventory is a challenge for many departments and agencies. As shelf life and expiration dates pass, federal organizations lose millions on worthless inventory; obsolescence and ineffective configuration management further compound these costs. Modern inventory planning tools, such as IBM's Dynamic Inventory Optimization Solution (DIOS), use complex algorithms that dynamically adapt to calculate optimal inventory levels—even in environments with high variability of demand. Coupled with well-defined inventory processes and disciplined inventory execution, such tools can help identify opportunities for reducing inventory investments and improving service levels.

Characteristic Seven: Transportation planning and delivery optimization. Transportation planning and management are vital to a successful supply chain network. Solutions are now available to implement multi-party Transportation Management Systems (TMS) with flexibility, scalability, and appointment scheduling across many suppliers, carriers, and service organizations. A modern TMS allows an organization to take control of freight and leverage buying power to drive down costs; when combined with proper distribution center control, such control enhances visibility and predictability, reduces variability, and empowers a supply chain leader to provide better support at a reduced cost.

Characteristic Eight: Predictive intervention. Addressing supply chain issues after they arise is generally costlier—in dollars and sometimes, i.e., for public safety or military operations,

lives—than proactively resolving them before they arise. Predictive intervention, another key characteristic of a smarter supply chain, depends on a network solution’s ability to provide business intelligence, visibility, and analytics.

Promodel Corporation has developed, in partnership with U.S. Army Forces Command (FORSCOM), a tool to better manage the Army’s Force Generation Synchronization (ARFORGEN) process. The Army Force Generation Synchronization Tool (AST) is the authoritative system FORSCOM uses to conduct its unit planning and sourcing process. It provides the Army with the means to view the predicted impact of today’s sourcing decisions on tomorrow’s utilization of the Army inventory moving through the ARFORGEN cycle. AST on-screen capabilities consolidate data from multiple sources, apply existing or “what if” business rules, predict the outcome, and automatically depict results, thereby eliminating lengthy manual, linear, and presentation-based methods previously employed. AST cut single courses of action development time from days to minutes while enabling multiple courses of action within the same time frame.

Promodel is developing another tool for the U. S. Army Material Command, giving them the capability to visualize total equipment demand and all supply sources over time. The powerful sourcing engine matches validated, prioritized equipment demands with available Army inventory in depots, non-deployed units, and other sources and provides the ability to run different courses of action to evaluate and trade off multiple equipping options. These options will help equipment managers consider the impact of delivery times and transportation costs and the long term effects of any decision, enabling the Logistics Materiel Integrator to create better sourcing solutions based on policy and Army priorities.

There are also myriad other off-the-shelf tools available today to assist with and support predictive intervention:

- Real-time dashboard
- Hot items—exceptions

For More Information on Faster, Smarter Supply Chains

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- Root cause analysis of problems
- Corrective action recommendations
- Execution links
- Exception-driven workflows

Characteristic Nine: Robust and agile information assurance and cybersecurity—Modern supply chain leaders face increasingly complex and challenging information assurance and cybersecurity threats, hard-to-quantify risks, and limited actionable data. For federal supply chain leaders, the situation is significantly more demanding due to:

- Higher authority data calls
- Myriad mandates (e.g., OMB, FISMA, NIST, DICAP)
- Manual data analysis
- Frequent security assessments
- Controls testing (monthly, quarterly, yearly)
- Ad-hoc remediation

Fortunately, tools do exist to help manage these additional challenges unique to the federal supply chain environment. One such tool is Security i-Cue, developed by MSB of Alexandria, Virginia, which provides automated continuous data collection and dynamic risk analysis. The tool provides quantifiable risk assessments and actionable security intelligence, enabling immediate action to mitigate or eliminate information risk. Moreover, Security i-Cue provides compliance reporting and on-demand assessments to reduce the burden of federal information assurance and cybersecurity protocols.

Conclusion and Recommendations

Meeting the challenge of creating and implementing a smarter, faster supply chain is now readily achievable. Many of the key characteristics and attributes of smarter supply chains are well-known and continue to improve in a rapid and thoughtful manner, while innovative solutions and tools are readily available in both the private and public sectors.

A world-class supply chain that meets the challenges of today with adaptability to the opportunities of tomorrow can be designed and implemented government-wide. A fully integrated, digitized, cloud-based supply chain management system could make our government supply chains quick, flexible, and highly efficient. Of course, building and implementing such a solution, a smarter federal supply chain, is no small task. It will require collaboration, strategic planning, creativity, commitment and, most of all, focused leadership. Overcoming the organizational inertia and myriad cultural, legal, administrative, and resource barriers in the federal environment will be a significant endeavor, but it can be done.

Recommendations

| Areas | Implementers | Recommendations |
|---------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Leadership | Department and Agency Heads, Functional Leaders | <ul style="list-style-type: none"> • Make supply chain transformation a top-three priority and establish clear vision, strategic goals, objectives, and measurable metrics (i.e., balanced scorecard) for success. • Take the lead in communicating to employees and other stakeholders why the change is happening and what the benefits of these changes are in terms they will understand. |
| Architecture | Department and Agency Heads, Functional Leaders, CIOs | <ul style="list-style-type: none"> • Identify promising cloud-based platform solutions and initiate small pilot programs to demonstrate capabilities, scalability, and usefulness of a real-time value network-based supply chain; then • Adopt and implement solutions across the enterprise in an expedited manner, using commercial, off-the-shelf software that requires limited changes to existing business processes, rather than designing and developing custom, in-house systems. |
| Integration/Coordination | Department and Agency Heads, Functional Leaders | <ul style="list-style-type: none"> • Reengineer business processes first, then identify improved processes and cloud-based solutions which can create interdependencies and real-time information sharing between procurement, manufacturing, supplier, logistic, and end-user activities. • Take advantage of the numerous demand planning and predictive analytic models that are available in the commercial market. |
| Human Capital | Department and Agency Heads, Functional Leaders | <ul style="list-style-type: none"> • Train and retain for longer periods of service those key supply chain leaders who will lead the transformation and change management required to be successful. • Tie performance evaluations and reward systems to goal achievement. |
| Overcoming Barriers | Department and Agency Heads, Functional Leaders | <ul style="list-style-type: none"> • Identify and champion, as part of the business processes review, those regulatory, policy, and legislative impediments to creating the desired supply chain environment. • Champion change agents, protect them during transformation, and reward them for implementing changes that improve processes. |

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10. Using Predictive Analytics to Prevent Rather Than React and Respond: A Case Study of the Recovery Accountability and Transparency Board

By Earl Devaney

Introduction

Predictive analytics involves extracting crucial information from multiple databases and then using it to help predict future trends, events, and behaviors. Often, sophisticated techniques like data mining and statistical modeling are used to enhance the ability to predict outcomes and to identify risks and opportunities. In turn, real-time decision-making becomes possible. Of course, the usability of the results depends heavily on the quality of the data used and the assumptions made during the analysis. One of the most well-known applications of predictive analytics is the FICO credit score (developed by Fair, Isaac, and Company) used to determine a borrower's creditworthiness.

Intelligence and law enforcement agencies have been using predictive analytics to fight terrorism and crime for years. More recently, the civilian side of government has begun to use predictive analytics to help identify improper payments, waste, and fraud. In particular, predictive analytics have helped to shift the paradigm from simply detecting these abnormalities to preventing them from happening. Clearly, the government can save a significant amount of time and resources by getting payments right in the first place more often, rather than sending money out and then expending administrative and sometimes legal resources to recover money provided improperly. Perhaps the best example to date of this new approach for using analytics to improve government efficiency is the Recovery Operations Center (the ROC), which was set up by the Recovery Accountability and Transparency Board (the Board) to monitor the \$840 billion American Recovery and Reinvestment Act (ARRA) economic stimulus program, including contracts, grants, and loans.

Case Study: Use of Predictive Analytics at the Recovery Accountability and Transparency Board

ROC analysts use a variety of new technology tools to mine more than 25 government and open-source databases, looking for anomalies and other indicators of fraud or waste. When problems arise, ROC analysts now provide an alert to both agencies and law enforcement that a particular grant, contract, or loan may be vulnerable to fraud or waste. In most instances, these alerts are issued before the funds have been handed out but even in cases where some money has been awarded, the notification comes in time to prevent further distribution of funds. Obviously, preventing improper payments, waste, or fraud is far preferable to the traditional "detect and chase" approach after the monies have been lost. The remarkable success the ROC has had in minimizing fraud and waste is evidenced by the numbers: Less than one-half of one percent of the nearly 277,000 contracts, grants, and loans awarded under the Recovery Act are under investigation. This pales in comparison to the five to seven percent figure normally associated with losses for any large government program.

The Board used multiple avenues to achieve these results, described below.

Transparency. The Recovery Act mandated that the Board establish and maintain a user-friendly website that would provide historic levels of transparency on how American tax dollars were being spent. The Board created two separate websites:

- [FederalReporting.gov](#) to collect data from Recovery recipients on how they spent their awards
- [Recovery.gov](#) to display that Recovery Act spending

Together, these websites heralded a new era in government transparency.

Because millions of citizens, reporters, and pundits were able to see this spending so transparently, the “bad guys” stayed away from Recovery Act money. Thus, one takeaway from Recovery’s grand experiment is that predictive analytics are best used in conjunction with transparency to maximize effectiveness. Neither is fully effective without the other. However, when used in tandem, transparency becomes a force multiplier for accountability.

... government can save a significant amount of time and resources by getting payments right in the first place more often, rather than sending money out and then expending administrative and sometimes legal resources to recover money provided improperly.

The Board also carefully mined information from focus groups and stakeholder meetings and one thing became abundantly clear: everyone wanted to know how Recovery money was impacting their own neighborhood. Responding to this insight, the Board ensured that the Recovery.gov website provided users with the ability to simply enter their zip code to see the spending on a map of their neighborhood. For the first time ever, Americans were able to see on a map where their tax dollars were actually being spent. The zip-code search proved to be the number one feature of this award-winning website.

Technology. It is also critically important for government agencies to understand and begin to use the many new technologies that ROC and countless other accountability platforms employ throughout government and the private sector.

Today, technology companies are enabling governments and private-sector enterprises to harness and analyze massive amounts of data. This development permits real-time decision-making, greater transparency, and improved business processes. With respect to predictive analytics, the Board’s strategies relating to big data, geospatial services, and cloud technology can help to provide a framework for IT reform within government in future years.

Data are growing exponentially. Experts expect that the amount of data created annually will grow by a factor of 44 between 2009 and 2020. This growth rate will easily exceed the capacity of traditional software tools to collect, manage, and process the data within acceptable time frames. Given this difficulty, it is no surprise that a host of new “big-data” tools have

emerged to meet this challenge. Government IT professionals, in particular, have been scrambling to find these new tools and strategies to address this phenomenon.

The success of the ROC depended entirely on the Board's ability to find the right set of tools to collect, manage, and analyze many datasets, both public and classified. Adding to the challenge was the unprecedented amount of data being collected from the recipients of Recovery funds. Simply stated, the Board needed to practice predictive analytics in ways that the government had never before tried.

Data mining. Initially, the Board used key indicators such as fraudulent business addresses, past criminal behavior, and government suspension and debarment proceedings to isolate potential high-risk recipients. When the assembled data began to overwhelm the ROC's analysts, the Board procured a global software company's new big-data tool that enabled analysts to quickly cut their process time down from five days to five hours.

Once the data have been mined and anomalies identified, sophisticated link analysis tools are used by the analysts to uncover non-obvious and/or high-risk relationships between entities. In one example, "Company A" presents itself as a low-risk recipient. By using the link analysis tool, the Board's staff identifies undisclosed ties to known criminal or high-risk entities, an analysis that shows "Company A" might actually be a high-risk entity.

Under the best scenario, these discoveries are made in the pre-award stage and the responsible government procurement official can avoid a potential loss of funds to fraud or waste. Of course, the Board notifies the appropriate Inspector General when potential fraud or waste is detected so that they can follow up.

Mapping. Comprehensive geospatial, or mapping, capability served as another critical component of the Board's predictive analytics platform. This technology focuses on both data analysis and the local impact of spending. The Board obtained this capability from the world's largest geospatial services company, which had first pioneered this approach with the City of Baltimore and the State of Maryland.

However, the elegance of geospatial technology goes way beyond simple consumer mapping applications. The Board pioneered its own unique use for geospatial services. It realized that analysts could use the technology to access and evaluate data from a multitude of geo-databases and make that information accessible in intuitive ways. For instance, by mapping past incidents of fraud and waste and combining that information with data from entities being investigated or audited, the Board created a series of predictive maps that displayed trends and even suggested the redeployment of investigative resources throughout the United States.

Cloud computing. The rapid growth of data is driving both government and private-sector chief information officers to seek out new levels of efficiency and cost savings by moving quickly toward cloud technology. Cloud computing uses hardware and software that are delivered normally over the Internet. In the cloud mode, the users entrust a remote service to store and operate their data and software. With cloud computing, users can connect from anywhere. Advantages also include cost savings, a reduction in FTE, business continuity during disasters, scalability in real time, and increased security. It is estimated that by 2020, more than one-third of all data will either live in or pass through the cloud. The Board moved Recovery.gov to the cloud in April, 2010. At the time, no other government entity had yet moved to the cloud. Not too long after, the ROC also migrated toward cloud computing.

Moving to the cloud meant that the Board no longer had to manage Recovery.gov's physical data center and related computer equipment. Through a contract with the website's developer

and systems integrator, a private cloud provider was chosen to host the website and provide computing power as needed. While the Board is only a small agency, initial estimates called for a savings of \$750,000 in the first year. One can easily see the significant cost savings for the federal government as larger agencies follow the Board's lead.

The cloud produced more than cost savings for the Board. Users began getting faster service, energy was conserved, and the Board's team of contractors and staffers were able to focus more intently on the core mission of providing rich content on Recovery.gov. And since the Board no longer had to invest in infrastructure, computer hardware and software assets were redeployed to the Board's oversight mission. Finally, by adding the cloud provider's security platform to the Board's own security system, the overall security posture was significantly enhanced.

Continuous monitoring. Other new technologies can also play key roles in adding predictive analytics. For instance, when an enterprise is considering obtaining a big-data device they would be well-advised to first ensure that their data are "cleansed" and put in shape to migrate from the legacy system to the new appliance. In addition, the concept of continuous monitoring has helped reduce the role of human analysts to perform predictive analytics. By leveraging the new big data systems, the continuous monitoring process eliminates the need for additional interpretation or analysis before taking action. This concept is now being used successfully at the Defense Department to help reduce improper payments.

Conclusion and Recommendations

There are now a number of challenges preventing the government from taking full advantage of the potential power of predictive analytics to make the award of federal funds more effective and efficient. The lack of data standards across government, for instance, prevents the maximum use of predictive analytics.

Early on, the Board realized that there was no single numbering system (award ID) that agencies assign to contracts, grants, and loans. Because there is no requirement that award IDs must be standardized across government, it is extremely difficult to harmonize spending data. The various numbering schemes can result in duplications, errors in reporting, and other discrepancies. Until this problem is addressed, it remains the principal obstacle to government spending transparency and accountability.

Recommendation One: To effectively track the money and use data to make better-informed decisions, government will need to reevaluate how its databases interact with and leverage each other. The government should now consider adopting the Board's template of a cohesive, centralized accountability framework to track and oversee spending. One government-wide accountability platform would help establish a consolidated solution that would be less costly and more effective than multiple agencies pursuing isolated efforts.

Recommendation Two: Many federal agencies throughout government should consider the use of predictive analytics to make smarter decisions up front, and reduce the time currently spent on reacting to problems after award. The potential for predictive analytics to revolutionize government decision-making extends way beyond spending. Technologies like big-data appliances, geospatial services, and cloud computing are just as germane to medicine, transportation, and purchasing organizations as they have proven to be with the Recovery program.

Earl Devaney is the retired chairman of the Recovery and Accountability Transparency Board (RATB). He served as Inspector General of the Department of the Interior. He also served in the U.S. Secret Service and the Environmental Protection Agency.



11. Speeding Government Services by Adopting a No Wrong Door Strategy

By Elaine C. Kamarck

Introduction

Two decades ago, the words “customer service” were rarely applied to the operations of government. Then in 1993, President Clinton issued, at the urging of Vice President Gore’s National Performance Review, Executive Order 12862, calling on the government to set “customer service standards” so that “the standard of quality shall be equal to the best in business.” Many of the standards produced dealt with the speed with which services would be delivered: how long customers would be on hold on the phone, how long a wait for services at the passport office, or a veterans hospital, or the post office. And these standards were benchmarked to comparable private sector services.

While this call for faster, customer-centric services was welcomed by many, and was modeled on the British government’s adoption of Citizen Charters, it was not popular with everyone. The Clinton administration faced criticism from those who argued that citizens were not the customers of government; they were the owners of government. Nonetheless the concept stuck because it expressed, in a succinct fashion, how reformers thought citizens should be treated by their government. Fueled by renewed attention to customer service in the private sector and the information technology revolution, government innovators began to transform the customer or citizen experience in the public sector in much the same way that private sector innovators had done.

Throughout the 1990s, the customer service revolution spread as innovators in the public sector learned from the private sector and from each other. During the 1990s, motor vehicle departments throughout the United States started to study companies like the Walt Disney Company for how they managed long lines. Other agencies studied high-performing companies like L.L. Bean to see how they used complex toll-free phone systems.

The United States was not unique in the attention given to service delivery. In 1991, the United Kingdom’s Citizen’s Charter movement forced national and local governments to lay out explicit standards of service delivery and to make them widely available to citizens. In 1997, the Australian Conservative Party government launched a unique experiment called Centrelink aimed at the consolidation and improvement of delivery in the nation’s complex array of social welfare benefits. In 1999, the World Bank began to incorporate best practices in service delivery into its lending strategies in the developing world.

Moving Toward Integrated Services

In the past 20 years, technological advances and an increasingly wired population have led to yet a second generation of improvements in citizen service. Back in 1993, a major goal of the federal government’s re-inventors was simply to get government agencies that delivered services to citizens, such as the Internal Revenue Service, to stay open on Saturdays.

Today, government strives to deliver as much information and as many services as possible through the Internet. A first step in service integration was the development of web portals that include services from more than one government organization. The federal government runs a portal called Benefits.gov, which takes the citizen through a simple series of questions and with a minimum of hassle identifies the federal programs that he or she might be qualified for. Similarly, New York City runs a site called Access NYC Information, “a public screening tool that you can use to determine the city, state and federal health and human service benefit programs for which you are potentially eligible to enroll.”

*“Integration” has replaced “transaction”
as the holy grail of service delivery in the
21st century . . .*

A second step toward better integration is now taking place in Virginia. One of the biggest problems with seamless service delivery is the fact that programs, even within one state or one city, can have very different information requirements—boggling citizens down in an endless cycle of paperwork. Virginia is launching an ambitious program to standardize all citizen-facing data. Eventually this program will allow for one entry point for determining eligibility to programs, enrolling in programs, and for self-service.

At the turn of the 21st century, the goal in customer service was to move transactions to the Internet. Today, in most countries in the world, citizens who have access to the Internet can find a wide variety of government information online. In the advanced democracies, citizens can also complete a substantial array of government transactions online. In the United States, most states allow citizens to renew driver’s licenses or car registrations online. The U.S. federal government, along with the national governments of many other countries, allows citizens to file income taxes online—something that 70 percent of U.S. taxpayers now do. Local governments allow citizens to pay parking tickets and other fines online. “Transactional government” was the goal of e-government enthusiasts a decade ago.

Today, few remember the days when going to the Department of Motor Vehicles took up the better part of a workday. In spite of significant advances in service delivery, citizens are still frustrated with government and trust in government is at all-time lows. In 2011, trust in the U.S. federal government dropped below 20 percent—15 percent in a CNN poll and 19 percent in a Gallup poll. Of course, improvements in service delivery alone are not likely to solve the government’s trust deficit, but government innovators have been acutely aware of one important fact about service delivery: citizens often do not know and do not care what level of government can meet their needs. For the citizen, government is, more often than not, one undifferentiated entity. Given the dizzying array of governmental bodies in the United States especially, it should come as no surprise that citizens are often confused and frustrated from trying to figure out whether they need to be searching for services or information from the federal, state, or local government.

Thus, as government innovators search for ways to improve service delivery even more, focus has turned to something called the No Wrong Door approach. The goal is to have citizens’ issues dealt with seamlessly through a central portal regardless of whether those issues are federal, state, or local. “Integration” has replaced “transaction” as the holy grail of service

delivery in the 21st century and represents a major challenge to the Obama administration as it begins its second term.

Challenges to the Integration of Social Delivery

So how realistic is the goal of integration in service delivery? What are the barriers to offering citizens a No Wrong Door approach? Integration of service delivery across levels of government requires solving technical and political problems.

Challenge One: All levels of government need to agree on a common technology architecture.

This is probably easier in a small country than in a big one. In the United States, governmental forays into e-government have proceeded in a thoroughly random fashion. Initially states and localities went their own way, contracting with a wide variety of providers to design everything from parking ticket payment systems to property tax systems. Many of those early contractors, companies such as EZGov, either went out of business or were acquired by larger companies. All the big IT companies, from IBM to Microsoft, are in the government business today.

Technical advances in lowering the cost and increasing the sophistication of computing make the creation of common infrastructures today less difficult than it would have been even 10 years ago. Familiarity with transforming legacy systems into more modern integrated systems is now easier than ever as well. However, the political challenges remain. Developing common agreement across federal agencies and with states and localities on privacy, data sharing, and the sharing of administrative costs for developing and maintaining an integrated service delivery system have yet to be surmounted and pose the greatest barriers to service integration.

Challenge Two: Coming to agreement on a common identity management framework. This is a challenge for both technical and political reasons. Obviously a secure and common way to identify citizens is important to the creation of a No Wrong Door approach to service delivery. Virginia is leading the way among states by passing a law requiring standardization of all citizen-facing data. But this concept on a national level is very problematic. With the exception of a short period of time after 9/11, when Americans were open to the idea of a national identity card, Americans have never been very enthusiastic about releasing too much data to the government.

An example of this reluctance is American resistance to the standardization of health care data, long a major goal of health care reformers. Resistance to giving too much data up to the government is a major difference between the United States and other countries, where national identity cards and health records are more accepted by the citizenry. In the United States, the public is much more concerned about privacy from the government. These concerns make any effort to standardize identity for the purpose of online transactions controversial. Over time the convenience of No Wrong Door service delivery might overwhelm Americans' reticence on this issue, but the fear of a national identity card—real or virtual—will complicate matters.

Challenge Three: The federal system. The biggest impediment toward better service delivery via the No Wrong Door approach, however, is federalism itself. The beauty of federalism is that it allows for competing values (and therefore policies) to coexist within one national framework. In fact, the reason many countries adopt federalist systems to begin with is that there are profound differences within the country that only a federalist structure can accommodate. In Canada, an international leader in e-government and service delivery, federalism has allowed for the successful integration of French-speaking Canadians in the Quebec province into greater Canada (although that process has not been without tension.) The problem

federalism presents for service delivery is clear. As Jeffrey Roy and John Langford have written: “Integrating the delivery of services to citizens and businesses across federal and provincial governments is far more challenging than integrating within each level of government, because the Canadian public sector is a political federation that grants sovereignty to both the federal government as well as the 10 provinces.”¹

In the United States, the diversity of state approaches to policy started out as a necessity and has come to be seen as a virtue. In 1932, Supreme Court Justice Louis Brandeis popularized this concept in a dissenting opinion when he wrote: “It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”

In a robust federalist system, there are many instances where policy differs significantly from state to state and from the federal government, making the integration of services virtually impossible. Let’s start with taxes. One of the most widely held goals in service delivery would be to reduce the citizen’s tax filing burden down to a single postcard by integrating state, local, and federal tax filing into one painless transaction. When this was first proposed by the National Performance Review in a 1997 publication, “Access America,” the technological problems seemed immense.

Major differences between the states and the federal government exist in other areas as well. In the Medicaid program, significant variations exist across states in terms of who is eligible for Medicaid. Federal law divides eligibility into mandatory eligibility groups and optional eligibility groups and states get to choose who they cover above a certain minimum. The result is that often the best the federal government can do through its websites is to move the interested applicant on to a state website or to the website of another federal program. Federalism runs counter to the No Wrong Door approach.

Even within the federal government there is a dizzying array of qualifications for programs. Thus, for instance, while the U.S. government’s Benefits.gov is a handy way to uncover federal programs that might apply to someone (after they have gone through an exhaustive questionnaire), the best it can do is unearth yet another website for the potential applicant to visit.

For some target populations, such as mobile military families, the challenges are even greater. As military families with special needs children, or who require community support for social services, move from state to state, the variation in the state and local delivery systems—from re-registering and re-qualifying for mental health programs, or special education programs, or even simply how to find the local food bank—become very daunting. Having a No Wrong Door or one-stop shop for this population would be difficult to build, but have an enormous impact on simplifying their lives.

Another area where service delivery is far from No Wrong Door is the adoption of children. Adoption policy is set by states and the result is that today more than 100,000 children in foster care are waiting for permanent parents, in large part because barriers in the adoption system keep parents willing to adopt children with special needs from finding those children across state lines. Among the many problems is that home studies of parents seeking to adopt children differ from state to state. This is one of many hurdles that work against the possibility of matching parents who are willing to adopt a child with special needs in one state with a child who happens to live in another state. Adoption of special-needs children should be a

1. Jeffrey Roy and John Langford, *Integrating Service Delivery Across Levels of Government: Case Studies of Canada and Other Countries*, IBM Center for The Business of Government, 2008.

promising area for No Wrong Door architecture, but before that can happen a variety of state incentive structures need to be changed.²

In large and diverse countries such as the United States, the forces in favor of more state and local control and away from federal control are powerful. Gun laws, for instance, vary from state to state and these states and localities remain extremely polarized in their attitudes toward gun control. Immigration, an issue that has always been the exclusive responsibility of the federal government, has come under challenge in recent years as states and localities as diverse as Arizona and Hazleton, Pennsylvania, have challenged federal preeminence in this area. While they have not been successful in the courts, their challenge to federal supremacy in this area is indicative of the passions surrounding the issue at the state and local level.

Conclusion

While federalism can help with service integration through the creation of collaborative networks of state and local officials, federalism's most important contribution to governance is on issues where passions run high and where opinion differs significantly from state to state or locality to locality. Thus one of the virtues of a federalist system is that it allows for diversity of opinion on highly controversial hot-button issues. This is especially important at this point in history when the United States is going through a particularly strong period of polarization on many issues and federalism is a valuable structure for allowing differences within the whole. The advantages that a national government brings in terms of its ability to promote best practices and lead in service integration are countered by the importance of a federal structure that allows states to have fundamentally different policies from each other and from the federal government.

Thus in certain policy areas, federalism limits opportunities for greater service integration. But this should not doom the conversation. There are policy areas where a national consensus must be achieved before service integration can be contemplated. Nonetheless, there are major areas of federal-state policy consensus which would allow some degree of conformity in the service delivery systems between the two. Tax filing might be a place where an experiment could be conducted for certain segments of the taxpaying public (most likely those who file the EZ form) to test the limits of greater integration, which would also simplify and speed services for tax filers.

The goal of greater integration of, access to, and delivery of federal, state, and local services is no less achievable than the goal of increased online service transactions was a decade ago. As long as we understand that federalism presents some legitimate barriers to integration and as long as we get that conversation right, we can move toward the goal of creating a No Wrong Door approach to integrated government services for Americans.

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2. For more information on this see: Elaine C. Kamarck, Julie Boatright Wilson, Mary Eschelback Hansen, and Jeff Katz, "Eliminating Barriers to the Adoption of Children in Foster Care," Harvard Kennedy School White Paper, January 10, 2012. Accessed at: http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/centers/wiener/wps/No_Adoption_Barriers_White_Paper_6_12_Final.pdf

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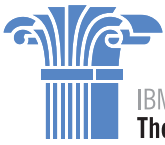
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