

GOVERNANCE IN THE DIGITAL AGE

BY KENT AITKEN

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1400 - 130 Albert Street
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613.238.7858

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ABOUT THE AUTHOR



Kent Aitken joined the federal public service in 2009 to work in public policy, but has often been drawn toward roles that examine the systems in which policy gets made. He's spent the last few years working on accountability, transparency and citizen engagement to redefine the relationship between citizens and their government.

As the Public Policy Forum's 2017 Prime Ministers of Canada Fellow, Kent dedicated a year to understanding governance in the digital age. His report, summarized here, is the result of research, surveys and interviews with almost 300 government practitioners and stakeholders in Canada and around the world.

Kent has a degree in Business Administration from St. Francis Xavier University, a degree in Political Science and Economics from the University of Prince Edward Island, and a Master of Science degree in Environmental Economics from the University of London, UK.

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I started to write a section thanking a number of people who've inspired me in their work in public service or civic space, and it quickly became too long. Theoretically, public servants are supposed to be interchangeable; organizations should be able to move work forward regardless of who is in a particular role. This is incredibly, thoroughly, stunningly not true. The success that governments are experiencing in modernization efforts is all-too-often attributable to individuals. I've learned so, so much from the community of people who fall into this category, and I cannot thank you enough.

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Governance in the digital age

“... I have a foreboding of a time ... when awesome technological powers are in the hands of a very few, and no one representing the public interest can even grasp the issues; when the people have lost the ability to set their own agendas or knowledgeably question those in authority ...

We've arranged a global civilization in which most crucial elements - transportation, communications, and all other industries; agriculture, medicine, education, entertainment, protecting the environment; and even the key democratic institution of voting - profoundly depend on science and technology. We have also arranged things so that almost no one understands science and technology. This is a prescription for disaster. We might get away with it for a while, but sooner or later this combustible mixture of ignorance and power is going to blow up in our faces.”

—Carl Sagan in *The Demon-Haunted World*, 1995

TABLE OF CONTENTS

- Executive summary 1
- Introduction..... 8
- “The internet is my religion.” 11
- Defining digital-era governance..... 13
- Understanding complexity 20
- Government is fundamentally different..... 26
- The nature of technology..... 29
- Digital and open government 39
- Digital government..... 43
- Digital meets policy 56
- Technology, ethics and inclusion 58
- Open government..... 62
- Citizen and stakeholder engagement 76
- Open data 90
- Innovation is information 96
- The stack and the gap..... 105
- The logic model is broken 116
- Building capacity outside government..... 123
- Summary and conclusion 126
- The choices in front of governments..... 127
- Governance in the digital age 128
- References 130

EXECUTIVE SUMMARY

There's a persistent orthodoxy about how the world is changing and how government should change with it. We hear words like agile, connected, responsive, user-centric, open and innovative.

And we hear that the world is increasingly complex, or the rate of technological progress is too fast for governments to keep up, so government must change. Governments have been hearing this recommendation for decades and changing only at the surface—rarely at their foundations. This could be because we are misdiagnosing the problem, coming up with the wrong solutions or failing to implement solutions correctly.

In 2016–2017, the Public Policy Forum dedicated the Prime Ministers of Canada Fellowship to the idea of “governance in the digital age.” The goal was to explore and explain how the world is changing and how governments are responding.

The report you are reading is intended as a resource to practitioners and a conversation starter for those who are thinking about the pressures of change on our governance systems. It is the result of a year of research, surveys and interviews with almost 300 government practitioners and stakeholders in Canada and across the world.

This report discusses the concepts of open government, digital government, public sector innovation and how governments are trying to manage rapidly changing technological and societal trends. It looks for common patterns in behaviour and practice, and how those patterns have played out in various contexts.

This report is not about, for example, whether governments need to engage more with citizens and across sectors. Rather, the starting point is this: If more engagement were a goal, how would it succeed and how would the structures of government create challenges?

In the course of my research, I heard two competing analyses: one early and common hypothesis was that the structures and designs of government aren't set up for digital-era governance. The other view was that, on close scrutiny, we see that our public governance is reasonably effective; for instance, Canada's civil service has been ranked as the most effective in the world.¹ And we can find some stellar success stories for digital transformation and open government.

After a year of interviews, the hypothesis that government is not set up for digital-era governance appears to hold up. Success stories for digital governance, while they exist, are not the norm. Initiatives to transform to digital governance across jurisdictions rely on a web of workarounds, fast tracks, exemptions and executive

¹ Blavatnik School of Government. 2017. [International Civil Service Effectiveness Index](#). University of Oxford.

air cover. Stories of progress in digital transformation followed by backslide are common; the departure of a single key official is in some cases enough to derail a whole program.

This leads to another common storyline: Often, responsible executives are unaware of implementation challenges and how frustrating the employee or citizen experience could be. Executives have line of sight to the programs and services that benefit from their oversight and intervention; the ones that are struggling because they can't get attention are necessarily hidden from view. The tip of the iceberg looks very different from the rest of it.

Effective governance depends on the work of responsible officials who have an honest and accurate understanding of both progress *and* challenges.

The digital era is shining a light on how important that understanding is. The more data we have about the world, the more we recognize how complex it is. Governments have to solve problems with an approach that is more holistic, more contextualized to people's needs and that reflects more voices. Meanwhile, technology is becoming increasingly specialized, mixes in unpredictable ways, and advances at scale across the globe rapidly. It's becoming more challenging for governments to keep up with the state of the market, whether they are trying to take advantage of technology or govern it.

THE CHOICES IN FRONT OF GOVERNMENTS

The defining challenge of the digital era is complexity.

Governments are making progress: They are moving from a model of planning and evaluating to sensing and responding, and this trend is a common thread across many modernization initiatives, including:

- digital government, which focuses on user research, prototyping, testing and iteration
- open government, which creates opportunities for public review of data and information, and engagement and co-creation to bring context and lived experience into public decisions
- public sector innovation, which expands the sources of problem definitions and solutions, and experiments with policies and programs

The features of the digital world are mirrored in the stated goals of government transformation efforts: governments know that they must be more *open* so more insight can be included in public decisions, they must be more *contextual* for user's needs and behaviours, and they must be more *horizontal*.

Open, contextual and horizontal. These are the features of the changing environment and, likewise, the features of the initiatives with which government is responding. They are also, however, the features of the persistent challenges governments are facing in implementation. Government needs to go precisely where it's hard to get.

Governments are machines designed to make tradeoffs and hard decisions—to aggregate citizens' views into a democratically legitimate, if imperfect, concept of the public interest. In 1959, one public administration scholar claimed that large-scale, long-term experiments were the only practical way to govern; the world was too complex, with too many variables, to try to understand and influence.²

Government's lack of time and capacity to manage these variables—and the cost of research and coordination—offsets the benefits of better policy. But the standards are set outside government by the leaders and experts in a given field. In a data-rich world with decentralized policy expertise and transparency mechanisms, government can never be good enough. Now we have the data to know who is losing in a one-size-fits-all, large-scale policy experiment—and we rightfully deem it unfair.

So what, then, can governments do?

If the problem is to become more contextual to individuals' needs, governments should delegate down and push decision making to the front lines. However, if the problem is horizontality and coordination between organizations, governments should make sure that information and decisions flow through central nodes. If the problem is to understand the changing technological and societal context, governments should become facilitators and conveners. However, if the challenge is to exercise stewardship of the public good, governments need to bolster policy capacity.

Put differently: there are no solutions, only choices. But there are proven and promising approaches for reliably making good choices over time in new and changing contexts. In his 1999 book on renewing governance for the information age, Steven Rosell called this “governing by learning.”³ In 2007, the Crossing Boundaries working group declared that “governments must stop trying to plan for things they cannot know and focus instead on learning to manage change.”⁴

To support that goal, government must invest in a stack of complementary strategies.

STRATEGIES FOR GOVERNMENT

Build Process Skills

Organizational learning doesn't happen on its own. In a world with no playbooks, maps or right answers, it is crucial to build skillsets for leading groups of people to make insights and decisions. Process skills are embodied by the following people:

² Lindblom, C.E. 1959. The science of “muddling through”, pp. 79–88. *Public Administration Review*.

³ Rosell, S.A. 1999. *Renewing Governance: Governing by Learning in the Information Age*. Oxford University Press, Inc.

⁴ Crossing Boundaries Canada 2020 Working Group. 2007. *Progressive Governance for Canadians: What You Need to Know*, p. 21. Public Policy Forum.

- user researchers and user experience designers (and testers), who are crucial to digital government initiatives
- foresight specialists who can help organizations explore plausible futures and imagine different scenarios—and what the implications would be
- citizen-engagement practitioners who can bring insight and expertise into government, and design public involvement
- learning organization and facilitation experts who can guide teams to define missions and then run post-mortems so they get an accurate understanding of why outcomes happened (often appears as “design thinking” these days)
- experimentation experts who can design and evaluate trials, quasi-experiments, before-and-after analyses, and other evaluation and feedback loops

Process skills help people map systems, understand complexity and collaboratively imagine and pursue future states based on a common mental model.

Organizations have always struggled to deploy these skills effectively. Almost every team needs them sometimes, but almost no teams need them full time. Governments recognize that they need more of these people in the ranks, but there’s no logic model to follow through on that intention. Leaving the decision to time- and resource-strapped teams around government has never worked for these skillsets.

The answer is to decide once, and to make the investment at the point of decision. If the assessment is that government needs more designers, user researchers or engagement practitioners, they must build that capacity and make it available across organizations.

Take Specialist Expertise More Seriously

A common theme from interviews was that government can’t throw generalists at problems in specialized fields and expect solid outcomes.

Optimists (typically profit-motivated) tend to drive the discourse about technological change; those who believe in the value of an emerging technology are those who will invest, develop and experiment. Academics and public sector voices follow years later, only once the technology starts generating societal or economic impacts.

Attending a one-day conference on artificial intelligence doesn’t scratch the surface for the understanding required to consider impacts on governance. Multiple interviewees lamented that they and their teams didn’t have the expertise they needed to make confident interventions on major public policy issues that hinged on technology.

Some jurisdictions show a promising pattern, most often under the digital government banner. Incentives are being used to bring top talent into government on tours of duty. In addition, the go-to people in government for specialized policy are invariably embedded in their subject communities via conferences, NGOs and constant learning. Here's the governance problem: no one is telling specialists to do this, and it's often on their own dime and time. That makes for an unreliable system.

Governments need to take specialized expertise far more seriously, including knowing what expertise is needed in the first place. For rapidly changing fields, this means that learning and community engagement will have to become a core part of people's jobs and day-to-day time—not an occasional refresher.

Maintain a Public-Good Ethos

The importance of emphasizing public good principles has never been greater. A common theme from interviews and recent research is that the digital era changes the working context for public officials, putting tension on some fundamental principles of public service. The challenge will be maintaining an emphasis on what we could call the “public service ethos.”

In a slow-moving world, principles about public governance and the roles of public servants could be embedded in policies and processes. But in a dynamic, fast-moving world like ours, officials are left to constantly apply principles to new contexts. This means they must understand both the principles and the contexts at a deep level.

A common theme from interviews was the need to leverage new possibilities and approaches: crowdsourcing, digital engagement, social media, artificial intelligence, challenge prizes, platform models and so on. An equally common theme was the disconnect between people who understand such approaches and people with a deep understanding of the principles behind government work.

Public servants are increasingly public figures, working in the open. The model of career public servants is shifting towards the idea of a porous public sector where expertise moves in and out of government. Some observers call for government policy analysts to move from being policy shapers to being facilitators, collecting and synthesizing ideas from the open public marketplace of input.

The discourse about technology, communications and even open data has often focused on possibilities, excitement and benefits—and fears and costs. Government's core role has never been more important; it must consider trade-offs, externalities and the public good, navigate competing interests and find a way forward. That role has to happen at the intersection of subject matter expertise and an understanding of the public good—and not just what's good for the people standing in your office on a given day, but the collective.

The questions to answer here are: do the people who understand the public good understand how the world is changing? Do the people who understand how the world is changing understand the public good?

The section just above on subject matter expertise begins to answer the first question. For the second, governments have to find ways to emphasize, communicate and reinforce principles for the public sector role in a digital age. Relying on process will fail more and more in a world where context is so important.

Promote Transparency and Openness

A transparent and open government addresses two challenges in particular. First, it supports collaboration beyond organizational lines. To be a node in a larger collaborative network, governments need to be open about the data and information they're working from, and the rationales for their decisions.

Second, it creates an honest, cross-organization accounting of successes and challenges. The lynchpin problem for digital-era governance is that no one, particularly those most responsible for structural governance decisions, has such a landscape view. The *status quo* is always less risky than the change, and transparency starts to transfer some risk to the *status quo*. One of the most common themes throughout interviews was how hard it is for the right people in organizations to gain a complete understanding of people's day-to-day experiences—their frustrations using websites, the unintended consequences of analog-era policies, service experiences, the external changes that could blindside an organization.

Here's an example: In given day, thousands of people might use a specific government service online. Testing can show what percentage of those people fail to complete their objective because of bad design. User research can capture how personally frustrating and upsetting that experience is, and what it does to people's view of government. Exposure hours (time spent watching users interact with a government service) can help governments not only to develop better design, but also build more design-oriented organizations.

The problem is that accountability rears its head when a project fails spectacularly. It doesn't budge for citizens' ongoing frustrations—until that frustration is captured, tracked and reported online. What's needed is a landscape view that includes reports, service dashboards, open data, open analytics, and public goal-setting and review.

GOVERNANCE IN THE DIGITAL AGE IS MORE THAN A 'CHALLENGE'

Progress in digital governance is inevitable. What's not inevitable is that we will ever get the exact progress we want, with the pace, scale and impact we want.

Governments are currently struggling with change, and it's not going to get any easier.

We hear that government transformation—as applied to open government, digital government, public sector innovation and technological disruption—is “challenging”. But that makes it sound like we can realize deep transformation with a little legwork and elbow grease. In reality, the word “challenge” drastically undersells the level of investment and commitment needed.

The existence of “challenging” problems suggests a need for policies, change management and champions. But the problems facing governments require more substantial governance levers at the level of laws and institutions, and genuine discussions about the nexus of accountability, expertise and responsibility.

To do less is to decide to muddle through indefinitely.

INTRODUCTION

Do we need to fundamentally rethink how government works?

There's a persistent orthodoxy about how the world is changing and how government should change with it. We hear words like: agile, connected, responsive, user-centric, open and innovative. And we hear that the world is increasingly complex – or that the rate of technological progress is too fast for governments to keep up, so government must change.

I agree, for the most part. But governments have been hearing that for decades and have only ever changed at the margins. So, we've either been misdiagnosing the challenges or coming up with the wrong solutions.

This report argues that the central features of the digital era are that it is open and connected, that problems have no boundaries and that context is everything. Governments are systematically and by design unsuited to understanding and managing those features. That is, they can neither capitalize on the benefits nor manage the costs and downsides for citizens.

Governments are trying to respond, which we see in programs and ideas such as digital government, open government, policy experimentation and public discourse about technology trends. These changes must always balance competing needs – the nexus of regulating in the public interest, supporting workers, enabling economic activity and making use of technology to improve government operations.

Those manifestations of how governments are reacting are both necessitated and deeply hindered by the features of the digital era. Therefore, while this report is about how we get to digital, open and adaptive government, it's structured more around the common narratives that influence all of those efforts.

Buried within those narratives, however, is a common core of concepts: knowledge and skills, capacity for foresight, how governments plan and make decisions and, invariably, *who* is accountable for *what*.

A LITTLE ON CONTEXT

In October 2016, I joined the Public Policy Forum as a fellow to research the idea of “governance in the digital age.” The topic for the fellowship was born from of a discussion between the CEO of the Forum, Ed Greenspon, and the Clerk of the Privy Council, Michael Wernick. I raised my hand to take it on.

Many of us who have an interest in government sense that technology, the internet and the age of ubiquitous worldwide communication are shaking societies and public institutions at their foundations – and that the world is changing more quickly than governments can respond.

This is, to be sure, nothing new. The wind changes and we adjust our sails.

We can look to a tremendous body of research and analysis from the Canadian government and academic communities that makes sense of trends and sets direction. There are too many authors to list and thank, but many will appear as references throughout this report, and many have provided advice or made other contributions.

Steven Rosell's *Renewing Governance: Governing by Learning in the Information Age* starts with this passage:

In Canada and throughout the world, the emergence of a global information society is accelerating the pace of change and overwhelming established methods of organizing and governing that were developed for a world of more limited information flows and clearer boundaries. As a result, we find ourselves in the midst of a fundamental transformation. Signs of that transformation include the radical restructuring of corporate and public bureaucracies; shifting boundaries between different sectors of society and levels of government; a growing interest in direct participation in decision making; and new challenges to the legitimacy of many traditional institutions.⁵

Rosell was writing in 1999, and many of his observations and recommendations hold up nearly 20 years later. In many cases, the question for this report became why advice, analyses and recommendations were going unheeded.

There is no shortage of recommendations for governments on how to capitalize on the possibilities of a connected society. My goal for this report is to examine the assumptions behind such recommendations and ask, “If this is the right course for governments, why haven’t we done it yet?”

In some cases, it’s because the issues and tradeoffs are greater and more complex than they first appear. In others, it’s because we haven’t sufficiently invested or governed in the right directions. Either way, it’s useful to identify the possible outcomes and the fact that forward progress is not inevitable – it’s the result of intentional, specific decisions, by specific people at specific moments.

The most interesting questions that emerged from my year of research, roundtables and interviews were about whether there are common threads throughout the discourse on digital-era governance; whether the concept of “governance in the digital age” was a useful construct at all; whether there’s something fundamental about how the internet has changed the workings of government; and whether we can create a framework for how we talk about that shift.

The question isn’t how governments deal with any particular technology, it’s about how governments restructure themselves to systematically and reliably adapt to future changes.

⁵ Rosell, S.A. 1999. *Renewing Governance: Governing by Learning in the Information Age*. Oxford University Press, Inc.

The discussions I had with public officials and observers yielded a set of recurring themes:

1. Tensions exist between the possibilities of a connected world and the foundational reality of a need for government accountability.
2. Governments with vertical mandates will be challenged in dealing with horizontal, complex issues.
3. There are fundamental challenges for how government officials understand technology and trends, and how that understanding translates into mandates.
4. Society must learn to focus the lens of the public good on new and changing contexts.

A general consensus has emerged about broad directions for governance: it needs to be more nimble, forward-thinking, open and citizen-centric. The concepts of open government and digital government embrace a theme of governments working more effectively with partners outside their walls – often enabled by technology to bring insight and expertise into public decisions.

This report is an attempt to construct a more detailed logic model for that progress. It connects aspirational goals to ground-level questions about what governments can do within the structures and levers they have. The goal is to write a report that is as specific as possible and that will be read by multiple levels within organizations. I want to provide an evidence-based case for change as well as a new way of thinking about the interconnected issues within “digital-era governance”. At that point, however, the content needs to be considered, challenged and contextualized; any recommendation worth considering should be examined by the experts within organizations. Especially because I have tried to write this report for all levels of government in Canada, albeit with a hefty bias towards the federal government.

What this report is not

Two common questions I’ve heard throughout this project:

1. What should government do about [a specific technology]?
2. What should I, as an individual, do to make myself a better official in the digital age?

Both questions are too specific, and often distracting.

For the first question, let’s take Artificial Intelligence (AI) as an example. AI has exploded in the mainstream in the last five years. In 2016, Google’s experimental approach for translation AI “had demonstrated overnight improvements roughly equal to the total gains the old one had accrued over [a decade].”⁶ There are some real and pressing questions about how government can leverage AI for citizen services, whether we should be considering regulating some private-sector use of algorithms, and what the impact of AI will be on labour

⁶ The New York Times. 2016. [The Great AI Awakening](#). New York Times Magazine.

markets (and, by extension, employment insurance and social security). This is all fascinating and important, but will remain tangential to this report.

Academics have been studying AI since the 1950s. Stanford is running a 100-year project on the impact of AI. Multiple books on AI were 2016 bestsellers. The governance question is more about how we structure public institutions to make use of the available understanding of such technologies, challenge recommendations from external actors, supplement research where needed and build capacity to either intervene or support citizens and companies throughout the changes that will inevitably, but unpredictably, occur.

For the second question, recommendations for individuals will emerge from this report only tangentially. But I will not try to convince individuals to change their behaviour, as that approach rarely works. Instead, this report seeks to examine the systems in which people work and make decisions. The question is: What specific, structural decisions would lead to a greater level of technology literacy across governments?

Culture eats strategy for breakfast, but structures and incentives eat culture.⁷

This report works through an interrelated set of topics: the nature of complexity, the pace of change and how government works, before segueing into how those features impact governments' goals towards digital government, open government, and innovation and experimentation. First, however, we'll look at a foundational change driver influencing the entire system, which is the internet and associated technologies.

“THE INTERNET IS MY RELIGION.”

At Personal Democracy Forum 2011, Jim Gilliam told his story of his relationship with religion, life-threatening illnesses, and the internet.⁸ After having cancer – twice – he became a social justice activist and used the internet to help build a movement: sharing ideas, connecting with people around the world and organizing in-person events.

Then, he needed a double lung transplant. Here's how he reacted:

⁷ Androssoff, R. 2016. [.Tweet.](#)

⁸ Gilliam, J. 2011. Personal Democracy Forum. [The Internet is My Religion.](#)

“All the radiation treatments that I’d had years before for the cancer had scarred my lungs to the point where I couldn’t even walk up the steps. They had to be replaced. Double lung transplant. I needed someone to die so that I could be saved.”

However, health care practitioners deemed his case too complicated. They wouldn’t put him on the waitlist for a transplant.

So he blogged about it.

Then, friends, relatives and people he’d never met – the activist community he’d been a part of, and other followers – started writing emails to UCLA in support, until he was given an appointment.

“I owed every moment of my life to countless people I would never meet. [When I went in for surgery], that interconnectedness would be represented in my own physical body. Three different DNAs; individually they were useless but, together, they would equal one functioning human.”

“We all owe every moment of our lives to each other, we are all connected, we are all in debt to each other ... We are the leaders of this new religion. We have faith that people connected can create a new world. Each one of us is a creator, but together we are *the* creator ... I have faith in people, I believe in God, and the Internet is my religion.”

After the sustained standing ovation, the host of Personal Democracy Forum told the crowd that “no one has represented what we believe, what we care about, more.”

In Gilliam’s view, the internet isn’t a physical network and it isn’t a telecommunications technology. It’s much bigger than that. And, for many people, the digital world has its own governing culture and philosophy.

Luciano Floridi, a philosopher of information at the Oxford Internet Institute, believes we’re living in an “infosphere”:

“‘Infosphere’ is a word I coined years ago on the basis of ‘biosphere,’ a term referring to that limited region on our planet that supports life. By ‘infosphere,’ then, I mean the whole informational environment made up of all informational entities (including informational agents), their properties, interactions, processes and relations. It is an environment comparable to, but different from, ‘cyberspace’ (which is only one of the sub-regions of the infosphere, as it were), since the infosphere also includes offline and analogue spaces of information.”

In my year of research I heard statements like this: “You have to realize that what you do online has impacts in the real world.” I read surprisingly recent academic journal articles that explored whether the internet

could be used to mobilize communities for political action. One art installation begged the audience to “look up” from their phones and enjoy the “real world,” somehow ignoring that people are talking to their parents, friends and partners via their devices. In all cases, the authors’ mental models come out in the framing: that the internet is somehow a fiction still, a separate place, less real than community centres and town halls.

In 2017, we seem to be moving away from that limiting construction and the concept of the internet as a communications medium or phenomenon. We’re internalizing the reactions to the idea of physical/virtual separation, which sound more like “of course what you do online has impact and of course people use the internet for X.”

“The idea of the virtual ... has since receded into the background, as you can no longer say today that someone using Facebook or Second Life is living within a virtual world (considering that he is interacting with his real friends and engaging in activities like providing his credit card number and personal information to order a Swedish Visa online).”

—Yuk Hui

Nicholas Negroponte’s *Beyond Digital* piece in *Wired* magazine hit the same themes in 1998:

“Like air and drinking water, being digital will be noticed only by its absence, not its presence.

...Computers as we know them today will a) be boring, and b) disappear into things that are first and foremost something else ... Computers will be a sweeping yet invisible part of our everyday lives: We’ll live in them, wear them, even eat them.”⁹

Steffen Christensen, an expert in artificial intelligence and foresight at Policy Horizons Canada says: “The Internet is no longer a place. It is us. It *is* the world. We live in it.”¹⁰

DEFINING DIGITAL-ERA GOVERNANCE

⁹ Negroponte, N. 1998. [Beyond Digital](#). *Wired*

¹⁰ Christensen, S. 2015. [Tweet](#).

What do I mean by “digital-era governance”?

Digital has its own set of characteristics, both physical and cultural. Former head of the UK Government Digital Service Mike Bracken sees it this way:

“It’s about much more than making websites. It’s using digital – its immediacy, its flexibility and its interconnectedness – to rethink public services.”¹¹

This report is about whether we have to rethink public services and governance in response to the digital world and, if so, what digital-era governance looks like, and how we might get there.

Digital serves as an adjective to “era:” that is, it’s “digital-era,” not “digital governance.” In other words, this is a broad topic. This *is* the digital era, and “governance” is the entire system in which public decisions are made and enacted, including institutions, norms, laws and policies.

It would be tempting to reduce the scope significantly, conceptualizing “digital-era governance” as: the trends and change drivers of the digital age, and the impacts they may or should have on governance. We could go slightly further, and be more concrete, by conceptualizing it as: government use of digital technologies for interacting with citizens and delivering policies, programs and services.

However, the pressures and opportunities that emerge from the advent of digital technology mix and interact with other change drivers within our systems of governance; to consider digital in a vacuum would be myopic and limiting. Shipping containers (a 1956 invention) combined with government deregulation and private investment (which took place largely throughout the 1980s) completely changed the global trade patterns for physical goods, just as the foundation for the internet was being laid. Likewise, the experiment with new public management and its “run government like a business” principle didn’t need the digital age to start showing its weaknesses. Rather, the decline was described as an “increasing realization that many of the promised benefits of ... increased competition and incentivization, had failed to materialize.”¹²

So, for our purposes, we’ll consider this exploration of digital-era governance as a renewed look at governance systems writ large, but with a focus on how digital-era technologies, trends, industries and cultures are creating challenges and opportunities.

Which they are. In real and significant ways.

There’s a certain semantic extravagance to the way we talk about the impact of technology. Every book claims trends as revolutions. The 2010 book *Wikinomics* came with the subtitle *How Mass Collaboration*

¹¹ Bracken, M. 2014. [On Policy and delivery.](#)

¹² Fishenden, J. and Thompson, M. 2012. Digital government, open architecture, and innovation: why public sector IT will never be the same again, pp. 977-1004, p. 2. *Journal of public administration research and theory*, 23(4).

Changes Everything. Mass collaboration and self-organization, enabled by the internet, changes *everything*. Literally no thing is untouched.

That's how it goes for new technologies and ideas. Their potential gets alternately over- and under-stated, they are applied and misapplied to different contexts, then, eventually, they settle into a level of sophistication and we figure out their genuinely productive uses. In the meantime, some observers get paid to do the overstatement of potential impact while others get paid to be a wet blanket and find ways to claim that a trend is nothing new.

When people claim that social media is ruining people's ability to interact, we might point them towards these words from an 1886 book:

With the advent of cheap newspapers and superior means of locomotion ... the dreamy quiet old days are over ... for men now live think and work at express speed. They have their Mercury or Post laid on their breakfast table in the early morning, and if they are too hurried to snatch from it the news during that meal, they carry it off, to be sulkily read as they travel ... leaving them no time to talk with the friend who may share the compartment with them ... the hurry and bustle of modern life ... lacks the quiet and repose of the period when our forefathers, the day's work done, took their ease

...

¹³ Munroe, R. [The Pace of Modern Life](#).

Blogger Jason Kottke has also pointed to Stanley Kubrick's 1946 subway photography to paint that scenario:¹⁴



Stanley Kubrick, 1946

Our heads buried in our mobile devices, indeed. What a modern tragedy.

We can talk about the novelty of crowdsourcing, but we can also consider that the Oxford English Dictionary was largely crowdsourced, via post, in the 1800s.

We can talk about the reach of digital citizen engagement, but we can also look back at the 1990 Citizens' Forum on Canada's Future and the fact that it was estimated to have reached 700,000 Canadians.¹⁵

Stacks of books – including many bestsellers – have heralded the age of digital disruption, proclaimed the end of paradigms, and evangelized the imperative of constant innovation. Kodak is frequently held up as an example of a giant that failed to pivot quickly or properly to the demands of the digital age.

¹⁴ Kottke, J. 2013. [The Quickening Pace of Modern Life](#).

¹⁵ Longo, J. 2017. The evolution of citizen and stakeholder engagement in Canada, from Spicer to #Hashtags, pp. 517–537. *Canadian Public Administration*, 60(4).

While these anecdotes can be compelling, they are not evidence.

Within the Fortune 500, firms' fortunes rise and fall. In fact, while the trend since 1955 is increased turnover in the top 500 US firms by revenue, if we were to graph from the beginning of the internet era, there's no trend of massive disruption. *From What does Fortune 500 turnover mean?:*

“As a prima facie matter, we can certainly see an apparent secular rise in annual turnover, with the early 1980s marking a decided inflection point, both in the level of turnover and its year-to-year volatility. This is followed, after 2002, in a slight fall. The overall trend for the 2000s, in fact, is downward, paralleling the 1960s and 1970s more than the 1980s and 1990s.”¹⁶

Industries and economies evolve, as do firms within them, whether the environment is analog or digital.

I'm wary when observers make claims about how revolutionary digital is and will be, and there's a value in considering historical context. We can try to contextualize the internet against other technology advances: the printing press, the telegraph, the telephone, the radio, the television.

Each ushered in its own era of changes on business, government and society. Some are harder to see than others. From the more common side is the idea that photojournalism and television made war around the world real and visceral, influencing public opinion on foreign conflict. Some changes are more subtle. News being shared from region to region over telegraph, for instance, changed how people thought about weather; it “enabled people to think of weather as a widespread and interconnected affair, rather than an assortment of local surprises.”¹⁷ The telecommunications technology could, far beyond just enabling faster correspondence, change human perception of their place in the world and the nature of geography, at a very fundamental level.

Or we could consider technologies of physical connectivity, like rail. Like we talk about digital technology today, the advent of rail created a new set of plausible futures for businesses and governments – opportunities to take advantage of, and new challenges to consider and react to. Firms might be cut out of supply chains, face new competition, or see prices drop as rivals lower the cost of material management. For states, rail changed warfare and geopolitics by changing the pace and range at which troops, supplies and machinery could be moved.

One can hardly imagine a CEO or head of state completely delegating how a firm or country should be impacted by rail. It's too powerful a change driver.

¹⁶ Stangler, D. and Arbesman, S. 2012. What Does Fortune 500 Turnover Mean? Social Science Network.

¹⁷ Gleick, J. and Shapiro, R. 2011. The information. Pantheon Books.

The advent of the internet is like rail revolution, but far more wide reaching. The internet is not only the vehicle by which organizations procure and receive material and ship products, but also how they conduct internal communications and collaboration, correspond with partners, customers and stakeholders, carry out research and development, set direction and do everything else.

Which is to say that, considering historical context, and keeping in mind the adage *plus ça change, plus c'est la même chose*, the digital era is, in fact, very, very different.

Consider a systems map for a given environment. For health care in Canada, you might have elements like hospitals, government institutions, unions, professional associations, preventative programs and private health care providers. You could map the impact and relationship each has with the others. You'd use that as a starting point to consider your system's change drivers: changing demographics, trends in treatment and pharmaceutical prices, increased training for nurse practitioners. Digital, however, is not quite a change driver; it's more like a meta-driver that influences other elements in the system, how they interact and what new change drivers mean for them. If the system were a convoluted Venn diagram, digital technology would be a force that changes the shape, size and location of all of the elements within it.

Digital has changed our world in astonishing ways, and ways that are not yet fully understood. I approach the work that follows with that hypothesis coupled with skepticism. After all, there is a cost to governments both over- *and* under-reacting to trends, challenges and technologies.

Understanding the nature of change

Because the nature of this change informs our thinking and heuristics so much, it's worth diving deep into elements of it.

There are two standards in most analyses of technological and societal change:

1. We live in a world of increasing complexity, *ergo* we have to do [whatever the author's desired outcome is]
2. The pace of technological change is increasing, *ergo* we have to do [whatever the author's desired outcome is]

And the author can point to anything to make their case: Moore's Law, social media, economic interconnectedness, citizen participation in policy making, environmental externalities. The consulting company KPMG recently surveyed business leaders about their biggest priorities and the top issue was managing complexity.¹⁸

¹⁸ KPMG. Confronting Complexity.

These two concepts are incredibly important, probably true and definitely incomplete. Understanding the nature of complexity and the nature of technology is the foundation to making solid decisions about governance, so bear with me as we spend time on those concepts. We also have to understand the context and implications of those two statements more fully.

UNDERSTANDING COMPLEXITY

In 1962, Rachel Carson published *Silent Spring*, detailing the impacts of pesticides on ecosystems. The data were clear: insects were causing massive problems to plant life in the United States. Although chemical pesticides, including DDT, could be applied in concentrations low enough to kill the insects but not the plants they were feeding on, there was an unforeseen effect: animals that ate insects – particularly birds – ingested lethal quantities of the chemicals and started dying. This disrupted the natural check on the insect population and had the long-term effect of increasing their numbers, which further damaged crops. The ecosystem was thrown out of balance.

Government needed a systems view of this problem, and didn't have it. It was a typical – and lethal – example of failing to account for complexity.

Complexity is both the driver for many of the recommendations lofted at governments and a major reason that change fails. Failure applies equally to emerging technologies and emerging trends in governance.

- The push towards user-centric digital services is based on the recognition that user needs and behaviours are complex, and can be revealed only by testing and iterating.
- The push towards citizen engagement is based on the recognition that public policy issues are complex, with different impacts and implications for different citizens that are difficult to understand and appreciate without discussion and deliberation.
- The push towards experimentation, such as the federal government's commitment to experiment with program design¹⁹ and the Ontario government's Centre of Excellence for Evidence-Based Decision Making Support,²⁰ is based on the recognition that program and policy decisions are complex and have impacts that can be understood only in hindsight.

We all use the word “complexity” but we do not necessarily understand it in the same way. It has a particular meaning for governance – one that has important implications. Here are the rules of complex problems, as per the federal foresight organization, Policy Horizons Canada:

1. You don't understand the problem until you have developed a solution, and every solution creates or exposes new aspects of the problem.
2. The problem-solving ends when you run out of time, money or energy – not when you have a solution.
3. Solutions are not right or wrong, but different solutions may be better or worse.

¹⁹ Office of the Prime Minister. 2015. [President of the Treasury Board of Canada Mandate Letter](#).

²⁰ Government of Ontario. [Mandate letter progress: Treasury Board Secretariat](#).

4. Each solution is essentially unique and novel and each will have to be custom designed and fitted.
5. Every solution is a ‘one-shot operation’; you change the problem space when you try out a solution, which means you can never reset and try to solve the same problem twice.
6. There is no single solution, or alternative solution; there will be possible solutions that no one ever considers.

Governments have tended to treat problems as complicated, rather than complex, believing that while problems are difficult they are solvable by best practices with predictable cause-effect chains. For instance:

- Governments tend to evaluate social policy success years into implementation, which leaves out the possibility that the solution is changing the problem definition.
- Procurement regimes are designed to identify business requirements years in advance of implementation, making it difficult to change course through learning via building, testing and use.
- The structures of government are designed for accountability for portfolios, not policy coherence or a systematic analysis of how policy decisions reverberate throughout other jurisdictions or portfolios; the current system of catching conflicts often relies on *ad hoc* collaboration and other parts of the system “catching wind” of proposed changes.

Complexity has always posed a problem for governments. And the concern is that the world is becoming more and more complex.

I think we should nuance that concept. Saying that the world is becoming increasingly complex is like saying that planets keep popping into existence and ignoring advancements in telescopes. Rather, the world has always been more complex than government officials could appreciate or manage from federal or provincial capitals. The digital age has *revealed* complexity. As one example, when federal employment insurance rules changed in 2012–2013, personal stories emerged instantaneously about cases where rural seasonal workers had to drive up to an hour to work for minimum wage in unfamiliar industries. The digital age made it easy for such cases to enter the national debate.

One of the greatest opportunities of the digital era, then, is government’s newfound opportunity – and duty – to fully understand citizens’ needs as well as the impacts of policy and program decisions. The more we know about the interdependencies of policy areas, and the more data we have, the higher the standards for effective governance.

Elements of “digital-era governance” include user-centred services, open government, citizen engagement, crowdsourcing and on. We often talk about these approaches as possibilities, and that digital technology can enable them. In fact, they are a necessary response to the increasing recognition that governments have been missing massive pieces of the puzzle so far, regardless of whether the solution is digital or analog.

When asked about the importance of citizen engagement, a provincial minister started telling a story about amalgamating schools. Maintaining schools is costly, and according to the policy guidance, several schools in one city were under the threshold for the number of students and geographically close enough to be combined. The minister spent time at the schools, talking to the staff, students and parents. It became clear that the schools were serving multiple purposes. They doubled as community hubs, providing event and meeting space to the neighbourhood around them in low-income areas that lacked other public amenities. Classrooms were being used constantly over weeks for social and educational programming. The policy also relied on an assumption about public transit and ownership among parents, which wasn't true in that area. Yet: the policy requirement was to look at a specific set of data points and, by that measure, the two schools would have been shut down.

These kinds of nuances, complexities and externalities are impossible to identify without community engagement, and impossible to appreciate without a meaningful sense of connection to the people impacted. In other words, we need context.

In another jurisdiction, a user researcher described a strategic planning cycle in the policy shop responsible for in-person government service centers. They felt the plan was riddled with assumptions so they convinced the executive in charge to bring the team to a service center for field research. The team observed people interacting with the building, the signage and the government representatives. The team's reaction was: "That was so eye-opening! I can't believe we've never done that." Most of the officials working on the rules for how service centers work had never visited a service center to do research.

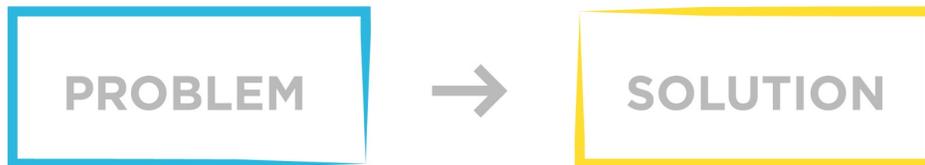
Citizen engagement and user-centred services will be covered in depth in other sections, so we'll leave those as quick anecdotes for now. They serve as examples of how governments can miss incredibly important information. We often don't know what we don't know. To mitigate the risk of missing information and maximize the likelihood of smart, effective policies and programs, we need to build channels of understanding between government officials and the communities they serve.

How we talk about complexity

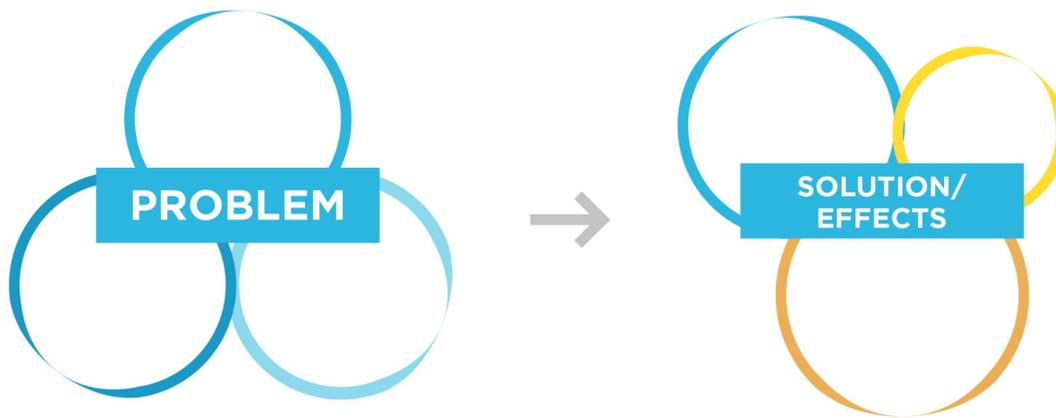
There are competing orthodoxies about the kind of world we live in.

On one hand, we increasingly appreciate how complex our world is, and how interdependent public policy issues are. In the social innovation world, there's an emphasis on systems thinking. We recognize that to properly understand a problem we must identify the relevant variables and the relationships and interactions between them. Often, these variables are outside the mandates of those exploring them, but that doesn't make them irrelevant. Instead, it leads to the mantra of "systems change" where an imperative for socially minded actors is to bring evidence and a case for change to the system around them, including government policies and programs. For digital government, the orthodoxy is centred on user research, ethnography and testing as a way to understand and manage the complexity of how people interact with digital platforms.

This world doesn't actually exist:



Reality is more like this:



The world is a Venn diagram of elements, features and effects, with these characteristics:

- the bubbles are all constantly moving
- the bubbles are always changing size and shape
- not everything on the environment side is a problem
- not everything on the effects side is positive
- this diagram looks slightly different to every player who cares about the problems and solutions

At the same time, we cling to the idea of the elevator pitch, demand tight narratives and suggest that anything that can't be said simply is not worth saying.

There can be a conceit in complexity, of course. Everyone likes to imagine that both their problems and their solutions are special, and inaccessible writing often reflects a lack of consideration for the audience far more than it does the nature of the topic.

Other times, people lack sufficient time and are doing the best they can with what they have. That is understandable, but hardly a way to govern: “The more time a decision maker spends on a problem, the more likely his or her understanding of the problem will approximate the actual task environment and the limitations of cognitive architecture fades.”²¹

The twisted logic of the seemingly wise advice to “Pick your battles” essentially boils down to this: We’re not going to do things the way we think they should be done because of how we’ve arranged our governance.

We know issues are complex, yet we demand bullet points and bottom lines.

This is particularly hard to square with the stated reason for some of the most high-profile government failures reviewed in this report: that government officials underestimated the complexity of the projects, or the magnitude of the necessary change-management exercise.

Maybe the demand for bullet points is often precisely what’s wrong.

I would level that charge at most recommendations governments hear. We no longer talk about community educational outcomes without also discussing health indicators and the economic environment. It’s just as myopic to talk about social change, or technology issues, without talking about how government can act on those issues at a very practical level. Which should lead the discussion to very specific features of procurement, human resources, accountability and performance measurement.

Getting to the meta about decisions

The reasonable argument for simple narratives is that they maximize understanding and minimize time investments; it’s far better to have people imperfectly understand the gist of portfolios than not at all.

But when the narrative cannot possibly do justice to the complexity of a situation – and the resulting decision making – we should examine whether the decision is being made at the right level.

The approach is to alternate between the *matter* of the problem and the *meta*, zooming in and out. One example in practice would be the Government of Canada’s “project complexity and risk assessment” approach for major real estate and IT investments. Project managers work through the assessment and compare it against the classification of their department, based on governance features and past track records. It’s a system for deciding at the meta level who is best placed to make the decision at the matter level.

This thorough approach is unfortunately the exception rather than the rule. Advice provided for most government decision making is forced into a common mould; reports end up being the same number of

²¹ Considine, M. 2012. Thinking outside the box? Applying design theory to public policy, pp. 704–724. *Politics & Policy*, 40(4).

pages whether the issue merits a page or a book. This reality nudges decision makers toward oversimplification and first-order decisions – when the best approach is often a second-order decision to either delegate the decision or establish governance for how it will be made. Cass Sunstein’s research has shown that people systematically under-delegate – well past the cost-benefit threshold; they value the idea of making future choices themselves far more than they should.²²

Public decisions require meta-level analysis: What kind of problem are we trying to solve? What system and environment does it exist in? How complex it is? And, most importantly: How do we know the answers to those other questions?

²² Sunstein, C.R. 2017. ‘Don’t Tell Me What I Can’t Do!’ On the Intrinsic Value of Control. Social Science Research Network.

GOVERNMENT IS FUNDAMENTALLY DIFFERENT

Also, it's not Amazon

The last section started with the idea that complexity is one of the major reasons desired changes in governments fail. This is, to some extent, due to our mental models and heuristics about organizations and change, which we will explore in this section.

When we look at someone's explanation of an idea and respond with, "In reality, it's more complex than that" we know we've said something bombproof. It's easy. Recognizing that, I'm including this section based on the following conclusion: the way we talk about government – and in particular government's relationship with technology – wildly underestimates the level of complexity involved. Because of that, our discourse systematically leads to incomplete, unworkable solutions. "Citizens expect Amazon-like digital services" is one of the most common ideas I heard, and I suggest that such thinking fundamentally misunderstands both Amazon and government. And it leads to misguided ideas about how to improve services.

This is not an excuse to stop trying; rather, the goal is to be more strategic in choosing problems to solve in the digital age, and to genuinely understand what solutions will cost. The mantra in government innovation is to spend more time defining the problem – to "fall in love with your problem." I think we've systematically underestimated the problem thus far.

Roughly 10 years ago, a team of analysts and enterprise architecture specialists in the federal Treasury Board Secretariat launched the "Business Transformation Enablement Project." The goal was to map citizen-facing services between the federal, provincial/territorial, and municipal orders of government. The resulting diagram of overlapping services looked like a plate of spaghetti dropped on the floor. From it, the team identified a number of high-value services likely to benefit from interjurisdictional streamlining.

Ten years later, the diagram looks largely the same. Governments have created crosswalks between related services (for example, the Newborn Bundle birth registration process) but fall far short of the goal of so-called "joined-up services," which was to be one of the hallmarks of digital-era governance.²³ Paul Waller and Vishanth Weerakkody have argued that no country has achieved true digital transformation because user-centricity is usually achieved by workarounds in the back-end rather than by adjusting policies to create more coherent services.²⁴

²³ Dunleavy, P. 2006. *Digital era governance: IT corporations, the state, and e-government*. Oxford University Press.

²⁴ Waller, P. and Weerakkody, V. 2016. *Digital Government: Overcoming the Systemic Failure of Transformation*. Digital Transformation through Policy Design with ICT-Enhanced Instruments. Social Science Research Network.

Why haven't governments achieved holistic services and user-centricity? It's because the costs, efforts, and trade-offs of doing so are almost always greater than we imagine. Government officials often recognize the complex environment that they work in, but either underestimate the degree or fail to manage it.

Amazon's founder, Jeff Bezos, once got a complaint about page load times on the mobile app and asked his CIO if it could be improved. The CIO said his team could get it down to two seconds. Bezos responded with, "It needs to be milliseconds."

Most company CEOs and public sector senior executives would accept CIO advice that two seconds is an acceptable load time. But research into user experience has shown that a two-second wait will deter a large proportion of potential customers. Sales will be lost.

Amazon is a massively complex organization with an astonishing distribution chain. Its websites get 183 million visits per month. So it's not shocking that Bezos has a granular understanding about how those websites work.

It would be easy to imagine a consultant relating the above story as an example of how government executives need to become digitally savvy and user-focused. But the more important message is that government service should not be compared to the level of service that customers expect from digital leaders like Amazon.

First, governments provide much greater breadth of service than companies like Amazon. The Government of Canada's central call centre responds to inquiries about more than 3,000 different programs annually. The long tail of Government of Canada responses exceeds any private sector organization by orders of magnitude. Meanwhile, Service Canada covers only 14 departments of 198 institutions. Consider the variety of topics for 1-800-O Canada and expand that to the estimated 8 million people who visited 700 in-person points of service, 74 million calls, and 290 million web visits per year across the entire government.²⁵

It's beyond unrealistic to imagine that any position analogous to Bezos' – either a departmental head or the head of the entire public service – could have that detailed a lens into how even a fraction of government services work for citizens.

Second, we need to consider the lottery fallacy. Calls for government to be like Amazon ignore the thousands of companies that tried to be Amazon and failed. Does it make sense to expect every service in every government department will match that? If yes, we have to imagine that the competitive pressure that fuels Amazon's success can be matched by government's ecosystems of priority-setting, audits and evaluations to drive continuous improvement. And while public service is still an attractive option for job-seekers,

²⁵ Government of Canada. 2015. Strategic Considerations: Mandate 2015.

governments aren't getting the 3 million job applications per year that Google is. (The federal government received 270,000 applications in 2015–2016.)²⁶

Third, Amazon doesn't have to care about people who are not profitable customers. Governments must be available and accessible to all citizens, ruling out a lot of "one-size-fits-all" services and adding cost and effort.

"Government will never run the way Silicon Valley runs because, by definition, democracy is messy," Obama said. "This is a big, diverse country with a lot of interests and a lot of disparate points of view. And part of government's job, by the way, is dealing with problems that nobody else wants to deal with.

—Los Angeles Times²⁷

We seem to have internalized the idea that government can't be run like a business, but we still lean on private sector heuristics and ways of looking at problems. We act as though they're inaccurate by degrees, where it's really like orders of magnitude.

Finally there is often little replicability between roles in government. In some of Canada's biggest national companies, there's still a degree of homogeneity to jobs. Someone running a program for a big-six bank in Atlantic Canada has colleagues fulfilling the same function across the country. But many positions within government are one of a kind. That leads to a lack of job-specific training, and imperfect mentoring. It means that shared best practices are about components of the job, not the entire picture.

All of this sounds dire. How does it help? It is not an excuse for inaction or a lack of ambition. It is simply a presentation of the true costs and challenges, which helps us avoid wasting time on dead ends and costly program failures.

²⁶ Government of Canada. 2015. [Public Service Commission of Canada 2015–2016 Annual Report](#).

²⁷ LA Times. 2016. [President Obama schools Silicon Valley CEOs on why government is not like business](#).

THE NATURE OF TECHNOLOGY

A common refrain is that governments have to think differently because the pace of technological change is increasing – and that governments are not keeping up.

I'll propose an expanded version of this concept, based on these three premises:

- The pace of technological advancement is worth thinking about as a way to situate governance in long-term trends and change.
- The need for adaptability doesn't depend on an increasing rate of change.
- Pace is only one of several factors that make technology decisions hard; governments must also consider stacking, nichification and mixing.

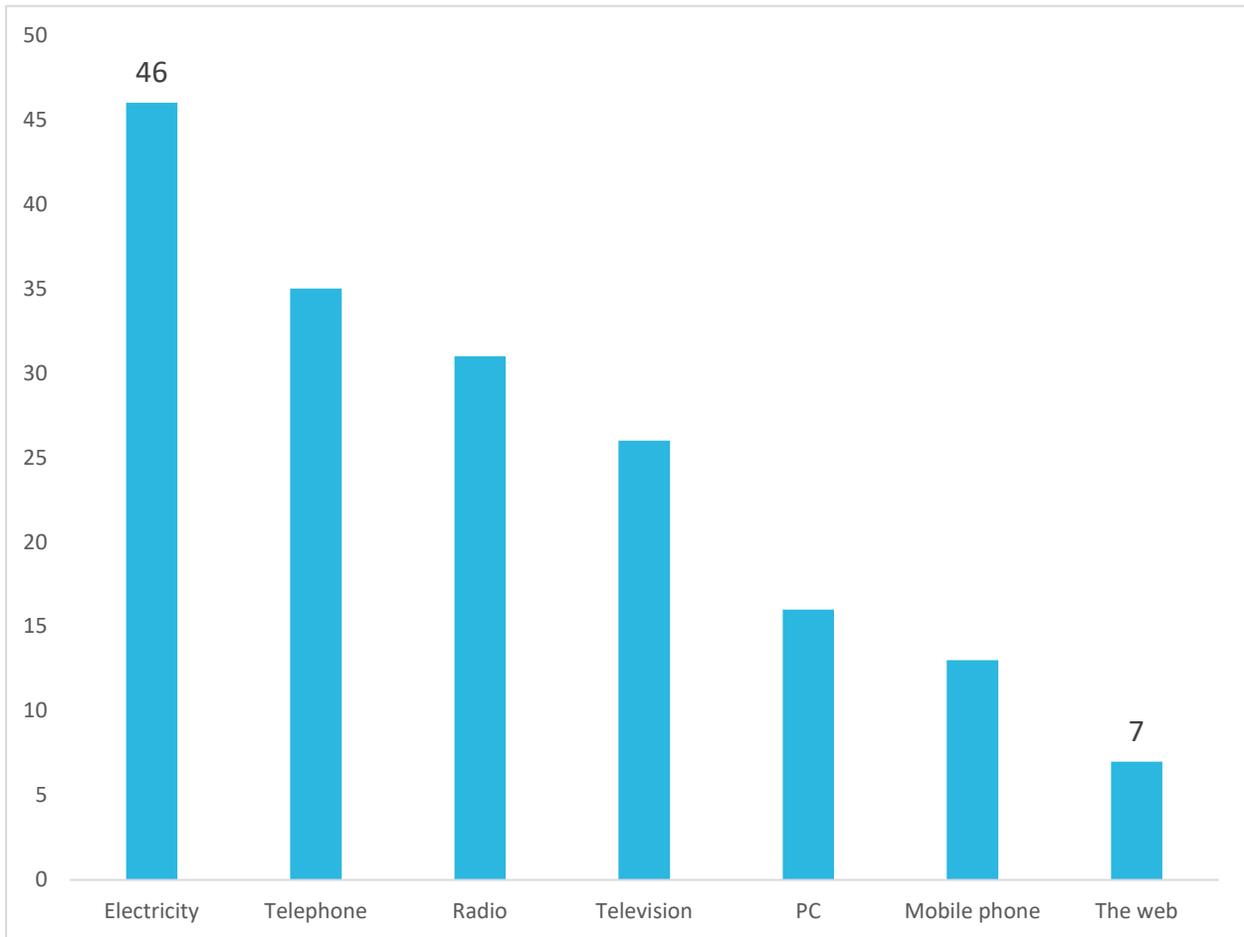
This section will go through each concept in turn.

THE PACE OF TECHNOLOGICAL CHANGE

The meme is that governments struggle with technology. It can be difficult for any organization, and features of government exacerbate it.

Is the pace of technological change increasing? We tend to think we live in special times, on the precipice of change. We're hardwired to get this at least a little wrong. Psychologists refer to humans' predictably skewed perceptions of history – the frequency of events and the time since events – as “telescoping.” It's difficult for us to conceptualize fair comparisons for technological advancement on a timescale and judge the arc from where any individual sits in history.

So we can look to experts and try to make sense of data. You may have seen versions of this chart tracking years to adoption by 25% of the US population.²⁸



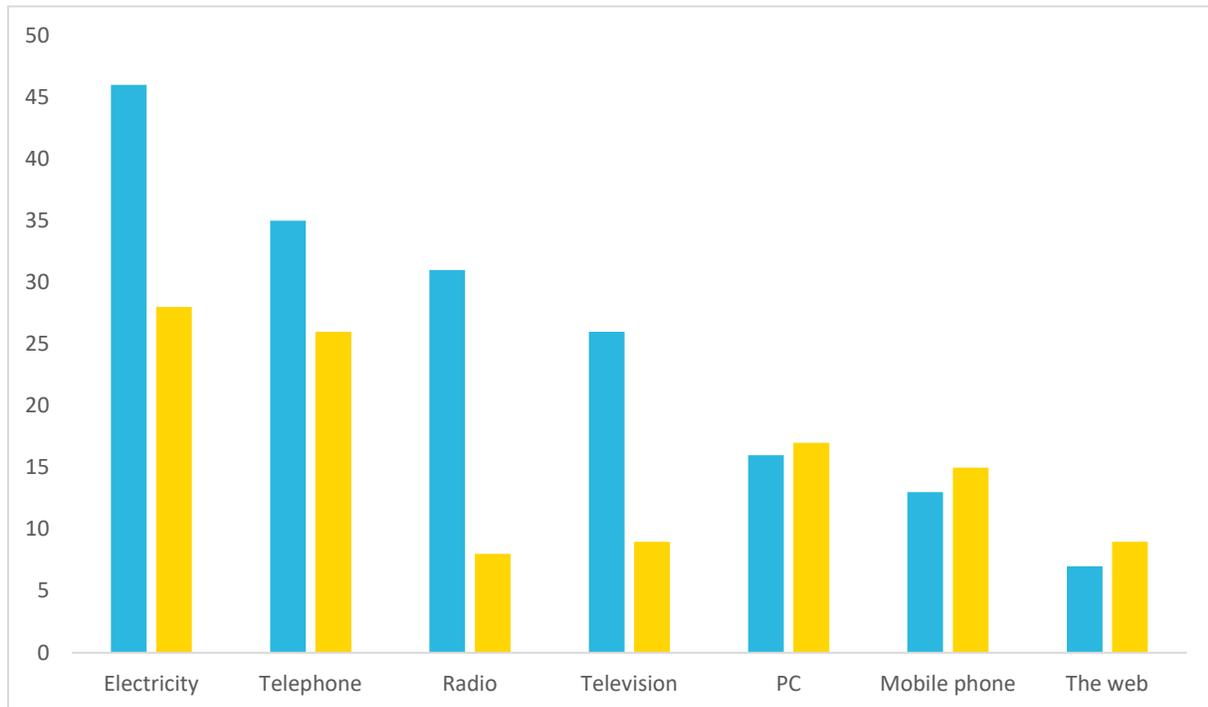
We also see examples of how quickly platforms like Twitter, Facebook, Uber and so on got to astronomically high numbers of users. Do we need a grain of salt here? It's as easy to find dissenters. Here's one that picks slightly less generous dates for the first years that TV and radio were commercially available and benchmarks against 50% of the US population. The first chart's data in blue, the alternate figures in gray:²⁹

The conclusion reached by the authors of that graph is that technology is diversifying more than accelerating.

²⁸ Pew Research Centre. 2014. [Chart of the Week: The ever-accelerating rate of technology adoption](#). Pew Research Centre.

²⁹ Leading Edge Forum. 2014. [The Pace of Technology Change is Not Accelerating](#).

We tend to develop an orthodoxy about emerging technologies, for a few reasons.



The fact that hyperconnected is now hypernormal makes it easy to make guesses about technologies and trends. We can replace "Aha!" moments with mental shortcuts, and the way we find information provides cues about people's intelligence and authority. For instance, if X colleague and Y scientist reference Z person's idea, and we think X and Y are smart, we'll probably think Z is smart and the idea holds water. An example would be when Stephen Hawking, Elon Musk, and Bill Gates warn about artificial intelligence. They're smart, and when other smart people agree with them, the idea is credible. It doesn't take any understanding of AI on our part to catch a glaring hint about its importance; all we've done is compare the claim against a mental rolodex of trusted sources.

This doesn't always lead to the right conclusions. Or at least, it's hard to know for sure whether we've reached the right conclusions or not.

Gartner's Hype Cycle is an industry standard model for understanding technology trends. According to Gartner, each new technology emerges, goes through a period of inflated expectations, then a "trough of disillusionment," then finally settles into a plateau of productivity.

There are two primary reasons for this. One, the semantic extravagance described earlier sells books, consulting gigs and conference webpages. Technologies aren't interesting if they're marginally worthwhile investments. They're interesting if they change everything.

Two, the optimists and early adopters get to dictate the discourse. The people who believe in a new technology will be the first to learn about it, experiment with it and communicate to others about it. The

skeptics have to wait until there's a critical mass of uptake so they can study the trend as a "something people are doing" rather than "a potentially game-changing technology." Add that many early adopters have an economic incentive to believe that the technology they're backing is transformative – that it sells books, attracts readers, promotes their business. The result is that the discourse about the new is always reliably and systematically skewed in favour of the viewpoints of early adopters.

Governments need strategies for separating the wheat from the chaff and the rigour from the bullshit. This often means that technologists and policy analysts in government need to be at least as on top of trends and technologies as those people touting their transformational nature.

This does not, however, mean training everyone on disruptive technologies. Every hour a government official spends learning about one topic comes at the expense of another. I had asked David Graham, one of the members of Parliament with the strongest technology background, how his background changes his oversight role:

"It is not necessarily important that all parliamentarians understand technical issues or terminology; it is important Parliament be made up of subject-matter experts that represent a broad cross-section of society. It is important for people to be there who understand technology, just as there needs to be people who understand law, policing, environmental concerns, resource extraction, and so forth."

The more fundamental problem is that we demand less rigour for governance and innovation than we do for policy. Plausible claims are often accepted and become memetic, repeated to the point where they feel like common knowledge. This is exacerbated by the fact that, as my colleagues in foresight like to say, "There's no dataset about the future." The result is that those who know a little can influence those who know less, and it's hard to prove ideas wrong except in hindsight.

There's a general rule in academic research: You know you're coming to the end of your literature review when you've already read all the references in the articles you're reading. A second line of defence in supporting academic work is that it gets validated by an advisor who has been studying the field for decades. We don't have that luxury in public administration, and particularly for governing change. There's no systematic record of experiential and practitioner knowledge. How do we know when we know enough about a skill, project or field?

You may be familiar with the four stages of competence model for a given skill. The idea is that we start incompetent, but don't truly know it. We know so little about the skill that we can't even meaningfully assess our own ability: this is called unconscious incompetence. As we learn more, we realize how little we know, reaching the second stage, called conscious incompetence. Eventually we become adept and know it, which brings us to the third level, which is conscious competence. Once we master something, we can do it on autopilot, without really thinking. This brings us to the fourth level, which is called unconscious competence.

Where we fit in this competence rubric for a given trend is important. We're making decisions in the public trust. How do we know when we're prepared to do so? How do we know when to move forward rather than signal-check with others or conduct additional research?

Stacking, mixing and nichification

New technologies do not operate on an even playing field. Electricity and telephony required new, unprecedented country-wide infrastructure. High-speed internet did as well. But dial-up did not; modems could be tacked on to the PCs in the majority of US homes. The figures for adoption of internet platforms are worse for any sake of comparison; joining a social media network costs two minutes of time, not a week's salary and a three-year contract with a company.

When you dissect an emerging technology, you'll generally find building blocks such as cameras, GPS, AI, sensors, computers. Drones are built on that stack, as are autonomous vehicles and smartphones. Remove a couple elements and you have Roombas. Add sensors and you get data-rich, processing-intensive smart-home climate systems or vehicles or heavy machinery that compare their systems to every other unit on the network to predict when they're going to break down.

The Internet of Things (IoT) is the growing network of physical objects connected to the Internet, enabling them to collect data, communicate with other networked objects and change their behaviour in real time. The International Data Corporation (IDC) has predicted that, in Canada, the number of installed, autonomous, intelligent and embedded systems would rise from 23 million in 2013 to 114 million in 2018,³⁰ which could create nightmares for privacy, identity theft and information security. Or, mix cryptocurrencies with ransomware – virus software that locks down an organization's databases until a ransom is paid – and you have a reliable way for malicious actors to receive untraceable, guaranteed money from honest organizations. The IoT things is a Chimera, and it makes understanding, prediction and governance elusive.

“Forget cord cutting, cord stacking is all the rage.” – Duncan Stewart (Deloitte Predicts)³¹

Today, Facebook Messenger and Whatsapp seem to be the leaders for instant messaging. It's been a long road through Yammer, MSN Messenger and, long ago, ICQ. Consider two figures:

- There are at least 11 apps currently supporting more monthly users than ICQ did at its peak.
- ICQ peaked in 2001 and, 16 years later, still has 11M monthly users.

³⁰ IDC. 2014. TELUS/IDC Internet of Things Study 2014.

³¹ Deloitte. 2014. [TMT Predictions 2014](#).

It's not just that technology is advancing, it's that we're not letting go of old technologies. So we're not just learning new tools; we're learning interoperability and patterns that rely on a growing software stack. For messaging – a keystone of collaboration – an individual might use 10 different apps daily – sometimes using multiple apps to communicate with the same recipient. Users have developed a passive mental algorithm for transmitting a message, running through questions such as:

- Is this for one person, a group or a network?
- Is it personal, professional or somewhere in between?
- Do I want this message amplified past my own networks?
- What apps does my ideal audience use?
- Should this be permanent or transient?

The same pattern applies in professional settings. Where once the future was seen as “collaboration platforms” like Jive, Sharepoint and others, this is a more likely scenario for a project: weekly meetings with follow-up done via tagging people (which generates notifications to their email) in a collaboration app with intermittent bursts of co-drafting Google Docs, plus instant messages for quick questions and group emails to draw people’s attention back to important things or links to review.

For instance, someone volunteering for a conference would at some point likely use all of the following:

- phone calls
- in-person meetings
- a scheduling app like Doodle
- a shared online calendar
- a web publishing platform like Wordpress or Squarespace
- shared social media accounts – at least Twitter and Facebook
- teleconferences
- videoconferences
- mass email software like Mailchimp
- collaboration or group project management software like Slack or Trello
- Google Docs or trading Word docs with track changes
- some combination of texting and using the messaging functionality in popular social apps
- maybe, just maybe, a fax machine

A lot of people can use these tools with little to no guidance. Questions like, “How do I share a file on [X platform]?” are typically a minor element of team-building around a collaborative project.

Individuals and organizations today simply have more options, more finely tailored to the precise goal they’re trying to accomplish; this is what I’m calling “nichification.” No need for a meeting when a phone call will do; no need for a phone call when an email will do; no need for an email when a text will do.

There’s always a cost to the learning curve, and we’re constantly on new learning curves for technology. The foundational skill is at least as much about recognizing how valuable a technology or platform will be, and how likely it is to become a standard or quasi-standard.

We can do this by watching for community uptake. We can experiment in context; a real-world application will provide a much clearer picture of the possible value of a technology than a demo or pilot with dummy data. At all times, we must avoid shiny object syndrome. If you find yourself excited about a technology, start asking why and digging through layers. One common pitfall is the “build it and they will come” platforms; if the value of a tool relies on everyone using it the way you want them to, and they don’t absolutely have to use it, give up now.

There is one universal principle, fortunately: flexible, interoperable technologies will increasingly beat out effective but siloed ones. Attaching documents to email works fine, but a link to a document works in every communication medium and therefore wins. It’s not just about what’s simplest for people to use, but what’s simplest within a wide, varied and growing ecosystem of use cases and communication techniques. This principle should guide government technology decisions.

Lastly, lumping all progress into a single concept of “technology” is blinding. The question is what the magnitude of the impact will be, and the extent to which the change can or should be governed and managed. Whether the change is slow-moving or fast-moving, the questions are how, when and why governments will change with it.

CHANGE HAS ALWAYS BEEN HARD FOR GOVERNMENTS

Most concerning is not the rate of technological change; it’s that governments are systematically and predictably more likely to react to change than get ahead of it.

BlogSpot launched in 1999, Facebook in 2004, Twitter in 2006. Meanwhile, social media was dismissed as a distraction or fad. Following socially amplified protest movements like the Arab Spring, and an increasing tendency for politicians to use social media as a way to bypass traditional media, political observers began to admit that social media could be influential and rebalance power and authority. But it took until 2011 for the federal public service to release a guideline on social media.

We see the same lack of preparedness in the regulatory realm. When Uber spread across North America, traditional taxi providers in city after city resisted because Uber didn't fit regulation and bylaw systems. Even after months of news stories describing disruptions and protests, cities repeated the pattern by failing to proactively adapt their bylaws. Meanwhile, market demand and enforcement challenges all but guaranteed Uber's success.

In the digital age, it will become increasingly important for governments to guide policymaking by scanning the environment for signals of change – and developing plausible scenarios of the future. But this has limitations as practiced.

As technologies emerge, private sector organizations use the profit motive to stay on or ahead of the curve. Consider the evolution from bank tellers (\$0.65 to \$4.00 per transaction) to ATMs (\$0.08) and online banking (\$0.03). For every year a bank lagged behind in implementing a new technology, it paid unnecessarily high costs to do business. For governments, certain features complicate this accounting. There are costs to being proactive.

First, governments don't report to shareholders or boards of directors. They report to legislatures and voter citizens. Let's imagine two scenarios, using Uber as an example.

In the first, let's imagine a government with a strong foresight practice, tightly linked to its strategic planning processes. It correctly identified that the entrance of Uber would cause issues and worked quickly to clarify rules for both Uber and traditional taxis in advance of the launch.

In the second, let's consider the reactive stance. The government waited until the issue appeared in the local news and was visible to the public. The smashed window of an Uber driver cemented the story for many people (this happened in Ottawa). Then government swung into action and addressed the regulatory, communication and enforcement gaps.

The first scenario sounds more effective, but it has significant downsides. One, it's a lot easier to get wrong. In advance, there's still the theoretical counterfactual of an incident-free Uber launch. (To repeat, a feature of complex problems is that we can truly know what happens only in hindsight.) Two, the first scenario is less understood by the public. This reality is true for any emerging issues or technology; those with expertise and foresight will always be ahead of the public's understanding. This means the public never fully appreciates the problem that government has solved.

Thus, there is more personal reward to solving a crisis than heading it off before it's publicly understood.

Notwithstanding, governments are always, eternally, fighting urgencies and fires. There's always a tradeoff for how officials spend their time. The smashed window shouldn't be what puts changes like this into the limelight – but it is, and will continue to be, as a deep-seated externality for how we select and reward

elected and government officials. We should define the governance problem we have, rather than the problem we wish we had.

Social media and Uber represent reasonably modern problems that are easy to consider from a technology standpoint. We could go back 25 years to the collapse of the Grand Banks fishery that put 40,000 people out of work. In hindsight, more aggressive controls would have had a net benefit for more people in the long run. The problem wasn't foresight, or knowing the correct policy response, it was the tradeoffs, and the incredibly human, personal and local impact. It was the change management. It was how hard it would be for government to tell people to move from their homes, leave aging parents behind, spend years re-training and experiencing economic uncertainty in a new industry. All without knowing for certain that the problem was indeed unmanageable.

A few years ago I walked the East Coast Trail in Newfoundland, which passes through abandoned towns that were never connected to the road system. It's a surreal experience. And it's a governance externality.

Governments struggled with change in 1992, struggle with it now, and we'll return to the power of foresight later to consider how not to struggle (quite so much) in the future.

Governing in a world of progress

Moore's Law has proven to be one of the most impressively prescient predictions in technology. It stated in 1965 that the number of transistors in a computer chip will double approximately every two years, and has more or less held up. Today, smartphones are millions of times more powerful than the sum total of the computing power that got the Apollo spacecraft to the moon in 1969.³²

With such progress on such a foundational technology, what could possibly get in the way?

Among other things, us.

If the world is becoming more open, more horizontal, and more contextual, that means an increasing deluge of data, information sources, relationships, and technologies will influence the governance system. And human understanding can't scale like transistors.

This is where we'll return to the idea of the complexity brake, for which I'll quote Microsoft co-founder Paul Allen naysaying that humans can maintain Moore's Law:

...As we go deeper and deeper in our understanding of natural systems, we typically find that we require more and more specialized knowledge to characterize them, and we are forced to

³² ZME Science. 2017. [Your smartphone is millions of times more powerful than all of NASA's combined computing in 1969.](#)

continuously expand our scientific theories in more and more complex ways. Understanding the detailed mechanisms of human cognition is a task that is subject to this complexity brake.³³

Advancement at the furthest reaches of human understanding often takes increasingly specialized knowledge, skills, equipment and coordination. Government is trying to use, regulate or support technologies that follow this pattern of advancement, and individuals in the system can't keep up. The generalist, synthesist approach to policy in this case gets increasingly left behind, left to believe or disbelieve claims from the experts rather than fact-check them.

All of this presents persistent, recurring challenges for governance.

Moore's Law also provides a useful contrast point. In recent years, computer processors hit a threshold where it was more efficient to add, rather than shrink, processors. There are physical limits (or at least forces) acting here. So the consumer standard today is usually quad-core, though octo-core is increasingly common for high-performance PCs. The way processors work had to be redesigned to distribute and coordinate tasks between cores.

Governance can't expand in this way as the workload and complexity increases. If a central government agency is overloaded, we can't add another agency to shoulder the burden. Adding another processing centre doesn't solve the problems of coordination or accountability. Features of problems are best understood at the working level, but horizontal impacts are best understood at executive levels. Which means that even if someone is accountable for understanding emerging technologies and trends, they're almost certainly hamstrung on doing so. Next we'll turn to how governments' systemic challenges in managing change play out across transformation initiatives.

³³ Allen, P. 2011. [The Singularity Isn't Near](#). Technology Review.

DIGITAL AND OPEN GOVERNMENT

“Digital government” and “open government” are broad, amorphous terms with different meanings for different people. This report will examine each in detail, looking at their roles in supporting better governance. For now, we will define them like this:

Digital government

Interactions between citizens and government (and interactions within government) are designed and optimized around users’ needs and actual behaviour patterns, which often requires changing the underlying government systems.

Open government

Information about government research, policy and operations is publicly available, and citizens have opportunities to contribute to, or participate in, public decisions – including collaborating with government as firms, communities and organizations. Government actively supports ways for actors outside government to hold government to account for outcomes.

Before we examine these terms more deeply, we will consider how they are often two sides of the same coin, with analogous histories and common challenges.

One feature of the digital age is that it is data-rich; we know more today than ever before about our world and the people in it and, as a result, we’re raising our standards for how we govern. In some cases, we realize we *can* do better. We hear case studies of fantastically effective digital services from leading government organizations, or see new research methods or analytics tools emerge. In other cases we realize that we *always should have done better*. We see this when research points to how often people struggle to use existing digital services, or how unevenly benefits are spread across demographic groups.

Likewise for open government: we see the rise of the internet and digital platforms for citizen engagement and know that we *can* do things better. And we often hear new voices that make us revise our previous mental model of the world, that shatter our assumptions, and we know we *always should have done better*.

In both worlds – digital and open – we have been flying blind for a long time.

Ethnographers and service designers have long known the importance of design and field data. Yet the rise of the internet has helped bring the importance of user testing to light, even when it’s testing in-person interactions. Online services, due to the volume and relative ease of collecting analytics, help make the case for testing all assumptions, online or off.

The next element of common history between digital government and open government is this: users, citizens and problems all share a fundamental characteristic, which is that they don’t care how government is

organized. The case for digital government is that citizens have to send the same information to government, often in slightly different formats, multiple times. It's calling a service desk and hearing, "I'm sorry, this department isn't responsible for that, you'll have to call another part of my organization." It's having a public meeting with citizens and telling them that something is out of scope to have them react, "But you're here to listen to me, and I'm saying that it's important for the issue we're discussing."

Similar to how countries have signed onto international agreements, such as air quality agreements, government institutions are part of a growing patchwork of inter-departmental and inter-jurisdictional bodies designed to dissect and divide the constituent parts of problems into everyone's existing responsibilities and mandates. When this works well, we call it "joined-up services." Government shares information with partners without the active effort of the citizen, their information gets updated, and people receive the services they need without confusion or despair.

At this point we get to the most common and limiting challenge: accountability and collaboration. In Canada's Westminster political system, accountability for outcomes and decisions rests squarely with ministers. While the elected government's cabinet is responsible for making major decisions, cabinet is not strictly accountable. Instead, the accountable parties are the ministers of individual portfolios. Virtually every interview conducted for this report on the topic of collaboration eventually addressed the issue of accountability.

The Organization for Economic Cooperation and Development highlighted this during its review of government innovation in Canada. Innovation requires someone to take leadership and risks for government-wide issues, yet researchers were struck by how strong the accountability and mandate-based culture is in Canada.

(The relationship between accountability and cabinet decision making is at the core of every structure, every advantage and every systemic challenge in Canadian governance. Aucoin and Jarvis,³⁴ and, more recently, Jarvis,³⁵ are good starting points for further reading.)

Public service managers are typically responsible for particular portfolios, and they are given the resources to deliver within their mandates. This has the practical effect of creating situations in which the outcome for one portfolio could be improved if another portfolio changed its processes or contributed time or resources. But they can't do it because they've been resourced to deliver on a particular program. This is key to the entire system of government budgeting, decision making and evaluation. Essentially, program leads aren't supposed to spend money or resources outside their mandates, even if the result is a net gain for citizens and government on the whole. In one department interviewed, clients had to provide information to up to eight

³⁴ Aucoin, P. and Jarvis, M.D. 2005. Modernizing government accountability: A framework for reform. Canada School of Public Service.

³⁵ Jarvis, M.D. 2014. The black box of bureaucracy: Interrogating accountability in the public service. Australian Journal of Public Administration.

separate sub-organizations. The response from program areas to requests to standardize and share incoming data was akin to, “That won’t work for how we run our program.”

This was a recurring problem described in interviews. Here is what the interviewees revealed:

- Successful collaborations between different areas of government often required (very) senior executive championship.
- User-centric services were often the result of a web of fast tracks, exemptions, workarounds and air cover.
- Representatives of not-for-profit groups that work with government told stories about how a single public servant switching jobs could set a project back by half a year.

In some cases, collaboration is so greatly needed that Parliament creates common services organizations with mandates to support other portfolios. Outside that extreme, the typical governance approaches to collaboration are to either get a very senior official to direct collaboration, or create a mountain of memoranda of understanding to cover everyone’s responsibilities and mandates. Neither approach scales very well, and certainly not at a rate where we’re able to recognize interdependencies between issues. “We can’t use the PM’s power every time we need to make Transport play nice with Agriculture,” one official said.³⁶

A former deputy head of the Canada Revenue Agency (CRA) was explaining how they linked data between CRA and Service Canada to improve services. (Forms were pre-populated to save time, or benefits and programs were suggested based on people’s profiles.) That official was deservedly proud of their role in propelling change. I take the opposite view. The fact that it required the sustained personal involvement of the CRA’s CEO equivalent doesn’t paint a promising picture of the opportunities for systematic service improvement.

We’re left, then, with a tension: the more data we have about the world, about the impact of policies and about citizens’ needs, the more we recognize the need for holistic, horizontal approaches to governance. At the same time, each additional stakeholder concern and policy area brought into the tent for a given decision increases complexity. It’s akin to how the number of relationships within a group grows exponentially as the group size increases. There’s one relationship between two people, but 36 different relationships among nine people. There’s another “complexity brake” on increased collaboration and horizontality.

The effect is exacerbated when we look at interjurisdictional collaboration.

³⁶ Johal, S, and Urban Crawford, M. 2017. *Regulating Disruption: Governing in an era of rapid technological change*, p. 16. Mowat Centre.

This creates another tension that advocates of increased collaboration tend to discount: one of the proffered solutions to get to a user-focused, adaptable government is to flatten organizations or push decisions down to the coal face. However, we could equally make a case for the opposite: the need for whole-of-government, holistic approaches makes senior executives more important, whereby more decisions are made near the tops of organizations. Legislators' and senior officials' time may be the scarcest resource in public institutions.

So where does this leave us? It puts horizontal initiatives in a position of fragility, which risks wasting time and resources on ideas that are great in a vacuum but can't survive shocks to the system. We can imagine using the following checklist before embarking on projects that span mandates and accountabilities, especially when they represent multi-year endeavours:

- Does the project depend on particular people remaining in their positions? Would it survive them moving? (Upon answering that a project would indeed survive, then ask yourself: "Really?" We tend to overestimate the commitment of others to ideas that aren't theirs.)
- It's hard to gauge the internal churn in government, but Public Service Commission reports suggest that roughly 30 percent of positions change hands in the federal government annually. Will the project survive that rate of turnover?
- Would the project survive a change in elected government?

If the answer to any of those questions is even "maybe," it may be prudent to secure additional commitment, establish dedicated resources or governance or focus on more reliable projects.

DIGITAL GOVERNMENT

“We’re bucking about gov 1.5.”

- An academic interviewee

To start this section, here’s a cautionary tale from Audree Fletcher, a former departmental Director of Design within the UK government.

“Digital sucks. As a word, it means too many different things to too many people. Just this week, I’ve heard it used as shorthand to describe:

- the digitisation of existing documents and processes
- intelligent process automation replacing human tasks
- business process redesign
- user experience of digital interfaces
- service design (obviously, as a term, massively loaded itself)
- moonshot level “disruptive” innovation”³⁷

When I say “digital government,” I’m referring to an evolution from what we might call “e-government” – known as “Government On-Line” for the federal government. Academic observers seem to have settled on a four-stage maturity model for the concept:

1. cataloguing
2. transaction
3. maturity
4. transformation or contextualization or horizontal integration

Early e-government efforts (late 1990s, early 2000s) were about cataloging–listing government resources and services online and how they could be accessed, which was still generally in-person or via mail or phone. Then we moved into transaction, which was about creating online options–updating accounts, email channels for questions, submitting forms online. Our move to maturity reflected the growing realization that simply digitizing paper processes was incredibly limited, and that writing and designing for the web was a massive boon to users and completion rates for transactions.

³⁷ Fletcher, A. 2017. [Digital sucks](#).

We're now moving in the fourth state, which variously gets called: transformation, contextualization, or horizontal integration.

Here is another way of looking at the evolution, reproduced from Maria Katsonis's work.³⁸

1990s	2000s	2010s
New public management	Evidence-based policy	Government as a platform
Influence of the market	The rise of the strategy unit	Co-design and co-production
Contestability of services	Triple bottom line	Market design
Purchaser/provider split	Creating public value	User generated
Shift to outcomes/outputs	Joined-up government	Innovation and collaboration
Creation of mega departments	Shared services	Commissioning
E-government	Government 2.0	Digital government

Combining these concepts, I propose that we consider digital government to be about optimizing digital services – not just having services available online, but making sure that each service is effective, which often means linked. Crucially, digital government means that the services are designed for digital, which means they're designed for users, and it means that governments will often have to re-engineer their back-end processes, policies, skills and even laws. It means information serves people, rather than the other way around. One government digital playbook set out the digital design principles:

1. Services are designed with clients, for client needs.
2. Do the hard work to make it easy.
3. Iterate. Then iterate again for ongoing service improvement.
4. A consistent client experience when using services is key.

³⁸ Katsonis, M. and Botros, A. 2015. Digital government: a primer and professional perspectives, pp. 42–52. Australian Journal of Public Administration, 74(1).

5. Digital by design, optimized for mobile.
6. Data and code is default to open.

We can nitpick those and compare between the UK digital standard, the Ontario version and the draft federal one, but those six principles cover the current thinking reasonably well. Stickers like those that say “Users first” have migrated across the world to the tops of public servant laptops.

As ever, though, we can find precedent and add context:

“The vision guiding the Government of Canada’s e-government effort is to use the channel and the technologies associated with it to enhance Canadians’ access to improved user-centered, integrated services, anytime, anywhere, in the official language of their choice. To implement this vision, we are pursuing a ‘whole of government’ approach that puts individuals or businesses first and that directly engages Canadians in a process of continual service improvement to deliver what they need and want. We have learned that fulfilling this vision demands unprecedented ‘back end’ integration and horizontal management across the full spectrum of what government does. It also means forging a stronger relationship between the citizens of Canada and their government ensuring a high level of transparency and responsiveness.”

— Canada’s first Chief Information Officer, Michelle d’Auray, in 2003³⁹

The extension of this orthodoxy, which is largely aspirational, is that we’ll start dropping the “digital” on “digital services” and just start calling them “services.” Digital isn’t some magical concept, and digital-only approaches would leave some people behind. Rather, most transactions will be done online because it’s almost always the most cost-effective way of delivering services and often the most convenient for users. Where transactions can’t be done online, or where people struggle, get uncomfortable or get confused, alternative channels should be as easy as possible too. The better organizations get at digital services, the clearer the picture becomes of who’s not opting for digital services and how to reach people through other means.

To enable these conditions, government has to understand digital technologies and their usage patterns. By “government” we of course mean “people in government.” Among the biggest questions for digital government is *who* has to understand *what*.

Digital services are change-management exercises, not IT projects

Here’s Haley Van Dyck from the United States Digital Service:

³⁹ D’auray, M. 2003. The dual challenge of integration and inclusion: Canada’s experience with Government Online. *Journal of Political Marketing*.

“The [US] federal government is the largest institution in the world. It spends over 86 billion dollars a year – 86 billion – on federal IT projects. For context: that is more than the entire venture capital industry spends annually – on everything. Now, the problem here is that we the taxpayers are not getting what we pay for, because 94 percent of federal IT projects are over budget or behind schedule ... 40 percent of those never end up seeing the light of day. They are completely scrapped or abandoned.”

Canada is not immune to this disease for its \$5.3 billion in annual IT spending. In 2017, the *Ottawa Citizen* newspaper reported that the “[Government of Canada killed] its push to collect all departments under a single Canada.ca domain,” citing costs of \$14.9M (plus \$19.8M throughout departments to prepare), as compared to the original budgeted cost of \$1.45M.⁴⁰ Where Ontario.ca is steadily humming as a single starting point for government websites, the diagnosis from practitioners from both governments was this: this wasn’t a web project, it was a change management exercise. But only the web project was resourced. The graveyard of large government IT failures has filled fast, in virtually every country in the world.

The federal government was explicit about that diagnosis for a project to let people renew passports online, which is behind schedule and over budget: “From its outset, the complexity ... was underestimated ... The project management capacity and expertise was insufficient for the complexity and scale of the initiative.”⁴¹

There’s a pattern in other recent post-mortems:

Email transformation initiative: “Both [government and the vendor] underestimated the complexity and required resources for the project.”

Phoenix: “It is our view, that it was the underestimation of the initiative’s complexity that led to its downfall.”

These examples are not here to cast blame, but to highlight that complexity was singled out as the main issue in each case. How can governments get a more accurate lens on just how challenging a major digital transformation project might be? How can they understand and manage complexity?

DATA AND ASSUMPTIONS

“Data, data, data. I cannot make bricks without clay.”

— Sherlock Holmes

Digital services have this wonderful, beautiful characteristic to them: they make it easy to collect data about how users arrived, how they navigate, what they do and where they struggle. What gets collected

⁴⁰ Piliéci, V. 2017. [Government kills its push to collect all departments under single Canada.ca domain](#). Ottawa Citizen.

⁴¹ Beeby, D. 2017. [New passport processing system \\$75M over budget](#). CBC News.

automatically isn't nearly all of the data required – service managers still require field testing, hypotheses to test and hours observing people using services – but it provides a solid base, and makes the results of certain kinds of testing incredibly stark.

If you're designing a service, what you think people will do doesn't matter. What people actually do does. Governments seem to be internalizing this concept but have not yet worked through the logic model to support it.

People defy expectations. Some have trouble reading complex sentences. Some have difficulties with their eyesight. Some have arthritis, and buttons placed close to each other can generate errors. Some are colour blind. Most are used to certain interaction patterns and get confused when you break that expectation (e.g. organizations' logos in the top left corner of webpages return you to the main page).

As practitioners conduct and share research, it becomes easier to start with promising design patterns. But designs start full of assumptions and educated guesses, and it's only in testing that the limits are revealed.

The Fastpass Project in the European Union introduced border control kiosks not unlike those common in Canada today. Border control organizations require certain information from airline passengers. Kiosks have been designed so passengers can transfer that information through prompts and passport scanning. Here are the test results from one kiosk design:

“[W]hen the users know exactly what to do, the system is fast, taking only 15 to 20 seconds to let a passenger through ...

... [However, [t]he current pilot ABC system at Airport A is not user-friendly, with instructions that seem to make little sense to first-time users. This resulted in over half of the passengers having problems scanning their passports. It was unclear to them where and how they were supposed to place their passport. Sometimes they would hold it up to the instructions screen, other times they would place their passport closed on the scanner. People would get confused and irritated, causing delays and frustration in the queue behind them.”⁴²

For a purely digital example, let's look at a municipal library homepage. It launched with three top-level navigation links that jumped off the main page: Find, Request and Interact. “The click-through rate for Find was 35%, Request was 6%, and Interact was 2%”; the hypothesis was that they'd expect far more people to visit the services within the Interact section. User interviews revealed that the word “Interact” wasn't how people thought of a library. So, the web team created five versions of the home page and visitors were

⁴² Oostveen, A.M., Kaufmann, M., Krempel, E. and Grasmann, G. 2014. Automated border control: a comparative usability study at two European airports. Social Science Research Network.

randomly (but evenly) directed to one of the five options. They tried swapping “Interact” with “Learn,” “Connect,” “Help” and “Services,” in addition to leaving an unchanged version.

Connect got lots of clicks, but users returned to the Home page when they didn’t find what they expected. Services was the clear winner. It had more than double the click-throughs and also won on subsequent user behaviour.⁴³

Testing often leads to minor tweaks and optimization, but where assumptions are wrong from the start, changes can lead to substantial and valuable improvements for users and organizations. And it’s worth considering the counterfactual of how many people were struggling with the service before the change, representing many people not getting what they want, getting frustrated and liking government less.

We should be terrified of our untested assumptions that we leave people to deal with – every day, often in massive numbers. The term “Interact” made sense to everyone in the organization except for the one person poring over the data. How do we take what that person knows and have it influence an organization?

DESIGNERS DON’T DESIGN, ORGANIZATIONS DO

“In short, the way government funds projects too often forces us to make big decisions at the point at which we know least.”

--Dan Sheldon

One program lead for a federal-provincial-municipal partnership, housed in a federal department, described their process for software and content development. Their mandate was to provide resources to businesses to help them navigate government. They needed a content management system, which would provide a platform for multiple authors to contribute content. The program ran its proprietary system while prototyping an open-source alternative, explicitly telling the executive responsible that the prototype would never see the light of day. The goal was to learn. After a couple versions, they had a system that was cheaper, easier for authors and led to fewer user errors, so they flipped the switch. Throughout, a single manager-level employee signed off all content.

I share this story because it contains some of the most common success factors described in the interviews I conducted:

- Design decisions rested with subject matter experts whose full-time jobs were to support that service.

⁴³ Young, S.W. 2014. Improving library user experience with A/B testing: Principles and process. Weave: Journal of Library User Experience.

- The executives responsible had line of sight to the on-the-ground service experience (service design and software development don't translate well into briefing notes).
- The organization had, or brought in, people with the crucial skillsets for development and testing.

I also share this story because it's the only one of its kind that I heard. Here's the design experience the other 99 out of 100:

"It's one thing to put a shiny website up. But if the policy behind it doesn't support it, you're still at step one."

"[Execs] don't work in the right way. There's no goal orientation."

"If digital was going to work, it's a fundamental shift from the way we do IT. What has to drive it? It has to align to the digital experiences people are having elsewhere ... based on a continuous improvement and agile model, and government isn't set up to do that."

Alan Cooper, who developed the concept of personas – fictional characters that represent user types to help service designers empathize with users' needs – put it like this:

"Getting good user experience isn't as much a design problem, as it is a power struggle."⁴⁴

The reality is that even if government has the best service team on the face of the earth, many people outside the team influence the design in the form of corporate requirements, policies, laws and executive decisions. They become *de facto* designers.

"Transformation means more than fixing websites ... If you're redesigning a service, you need to think about the organization that runs it."

– Mike Bracken, former head of the UK Government Digital Service

Deloitte has categorized organizations by their digital maturity, then looked for common features within each group. Here is their take on what a digitally mature organization looks like.⁴⁵

⁴⁴ Cooper, A. 2017. [Tweet](#).

⁴⁵ Deloitte. 2015. [The Journey to Government's Digital Transformation](#).

	Early	Developing	Maturing
Strategy	Aimed at cost reduction	Aimed at improving customer experience and decision making	Aimed at fundamental transformation of processes
Leadership	Lacks awareness and skills	Digitally aware	Digitally sophisticated
Workforce development	Insufficient investment	Moderate investment	Adequate investment
User focus	Absent	Gaining traction	“Central” to digital transformation
Culture	Risk averse, disintegrated	Risk tolerant; accommodates innovation and collaboration	Risk receptive; fosters innovation and collaboration

The founder of the Center Centre user experience design school, Jared Spool, blogs about trends and concepts in user experience design. His posts are as often about strategies to influence one’s own organization as about design itself: convincing executives about the value of UX,⁴⁶ or preventing “swoop and poop” where someone gets seized with an image, concept or phrase and insists on dictating the design regardless of what the data says.⁴⁷

The example I provided at the start of this section is the ideal. The design decisions are connected to the people working on the service and informed by data and testing. Most of the institutional influence on the service comes from a single executive who personally understands the service and either values experimentation or trusts their staff to propose the right direction.

Two hours every six weeks is the minimum amount of time teams should spend learning how people are actually using the services they are responsible for.⁴⁸ That doesn’t mean the user research team (they’re

⁴⁶ Spool, J. 2011. [Why I can't convince executives to invest in UX \(and neither can you\).](#)

⁴⁷ Spool, J. 2016. [Preventing the Executive Swoop and Poop with Design Sprints.](#)

⁴⁸ Spool, J. 2011. [Fast Path to a Great UX – Increased Exposure Hours.](#)

spending a lot more than two hours); that means every single employee whose decisions and actions affect that service. The corollary is that ministers and deputy heads are service designers. If they're responsible for governance, management or direction, they're service designers. This is why the UK Government Digital Service instituted a practice whereby ministers had to complete any online service transaction themselves before the service could launch.

In most cases, institutional influences are disconnected from how the service works. It's tempting to say that to the extent that executives or policy leads influence decision making about services, they should understand how the service works, and the data about how it is used. But when we consider how broad governments' service offerings are, we see that such a reality is untenable; executives may be responsible for many different services and have incredible pressures and no commensurate swathes of time.

More bluntly: user knowledge and data, which point to important needs, get pushed from the coal face of services to mid-level executives. Simultaneously, political and strategic requests get pushed down from senior executives to the middle levels. Realistically, the demands from one's boss will trump the alarms raised by one's staff. This is the danger: that service leads might write a response or briefing to one important person while an issue that might affect how hundreds or thousands of people interact with a service goes unresolved.

If only a fraction of the players are user-centric and data-informed, but others aren't, the organization will not exhibit those key characteristics. Instead, the lowest common denominator wins.

The escape hatch is to delegate design decisions downwards, recognizing that design decisions need to come with organizational decisions, HR decisions and procurement decisions. The tradeoff is less capacity to coordinate between service areas with less information flowing through the central nodes in organizations. (This quandary between unit autonomy and system-wide change was flagged as early as 2001.)⁴⁹ Governments get caught in adhocism, but taking the time to establish, test and tweak governance at the service level to enable collaboration is the better route. There's no formula for this; it's too context-specific, but we can work through a set of questions.

What's the logic model for the governance for user-centred services? The requirements will differ, but revolve around some combination of the following:

- Having, or having access to, skills – business analysis, user research and testing, user experience design, development, data science, and whatever else the service manager might need.
- Having flexibility and ownership over the infrastructure, service and future plans.

⁴⁹ Allen, B.A., Juillet, L., Paquet, G. and Roy, J. 2001. E-Governance & government on-line in Canada: Partnerships, people & prospects. Government Information Quarterly.

- Having flexibility to coordinate with and support complementary or dependent services – plus having awareness of complementary or dependent services.
- Having a relationship with the policy and program areas that influence the service. Most of the time the language, interface and requirements of government services are direct products of the program decisions, long before the service design starts.

So we can then ask ourselves questions like this: IF a service manager could benefit from collaboration with other services, HOW would they know about them in the first place? WHAT flexibility do they have to change what they're doing? IF data suggested that the service were systematically generating errors in some way, WHAT could the manager do about it, over what timeframe?

And, by extension: Where authority has not been delegated to the service level, how would the responsible executive know enough about the nuts and bolts to make confident, informed decisions about design? For some issues, the technical details completely change the game and should change the decision; for others, the technical details can follow the decision. The challenge is that, once filtered through generalists into briefing notes, these two types of issues are virtually indistinguishable.

Getting a user-centric government, rather than just user-centric teams, will require a long-term, concerted effort. Many governments have efforts underway, but the crucial outstanding question is how senior executives and policymakers connect to these efforts and incorporate learnings into their decisions.

THE DIGITAL ORTHODOXY

Fortunately for the future of digital services, the people who work on digital government initiatives tend to be people who are extensively digitally connected. And ideas and case studies spread across jurisdictions.

For example, there's an unofficial federal-provincial-territorial digital government Slack channel running across Canada. We're seeing encouraging policy transfer now with the launch of the Canadian Digital Service at the federal level, explicitly nodding at inspirations such as 18F, the U.K. Government Digital Service and the U.S. Digital Service.

GOVERNMENT DIGITAL OFFICES

When I say "a digital office," I mean a central technology organization within governments dedicated to some combination of internal consulting, project work, prototyping, standards, procurement reform and expenditure control.

Dr. Amanda Clarke notes that the evidence is not yet in on whether these organizations can deliver on the many high expectations people put on them.⁵⁰ They are facing scrutiny and, in some cases, existential challenges.

The main expectation is that digital offices will help build or improve high-impact digital services for citizens by working with program and service areas across government. Digital offices provide resources on demand to the projects that have the most impact or reach, or that need the most help. By working across departments and projects, they solve the problem of there not being enough analysts and user experience designers in Canada, let alone government, to staff individual teams.

That's the goal for the Canadian Digital Service at the federal level, the Ontario Digital Service, and a few smaller provincial teams with more nuanced mandates. For the most part, however, these digital offices exist in the same ecosystem of policies, human resources frameworks, procurement rules and mandatory processes that caused the problems governments are seeking to solve. The web of workarounds, fast tracks, exemptions and executive air cover that keeps digital offices afloat isn't a solution – it's part of the problem. As one provincial digital lead put it, if your project is “tied to a person with a lot of power to give you air cover, then you don't have the right conditions for innovation.”

I'll add a warning for executives: if you find yourself championing projects to ensure their success, you should probably worry about how many other projects are struggling without a champion.

In Beth Noveck's book about open government, *Smart Citizens, Smarter State*, she dedicated an entire chapter to detailing what regulations, policies and laws had to be changed to enable challenge prizes and an ecosystem approach to service delivery. At the time, she was deputy chief technology officer, sitting in the White House and enjoyed a relationship with the Office of Management and Budget, the central management organization for the U.S. government. That represents a strong champion for removing internal barriers.

The barriers are not trivial. The Government of Canada's Red Tape Reduction Action Plan came up with the following assessment of low-dollar value (less than \$25,000) service contracts. A typical contract would:

- involve seven people
- require eight days of “touch time”
- take 15 weeks to complete
- require 39 documents
- have an average value of \$4846.99

⁵⁰ Clarke, A. 2017. Digital Government Units: Origins, orthodoxy and critical considerations for public management theory and practice. Social Science Research Network.

- cost the government \$1846.00 in time and incidentals
- be subject to 36 different policy instruments related directly to procurement and others related to different types of purchases⁵¹

We hear things like, “Procurement isn’t broken, people can write contracts for agile development now.” But do they? If not, or if less than they should, then procurement is as good as broken. Maybe the procurement policy is fine. But the procurement system isn’t generating the outcomes desired.

For human resources, a provincial official’s assessment of top-talent recruitment for digital skills was blunt:

“It sucks.

[There are] significant barriers. So, we’ve had to contract them... [we] can’t get full job descriptions. We think that they should cost more.”

A number of practitioners relayed stories: they were told that changing a fax-only option to an online form would cost over a million dollars and take years; that getting a development server to test systems would, likewise, take years; that server space would blow their budget. These stories were often followed by lamentation about how hard it was to explain to senior management why these issues were so important.

So, what does this bleak assessment have to do with digital offices?

First, digital offices offer an ideal avenue for those at the center of government to better understand the experience of technologists in the public sector, the systemic barriers and the opportunity costs of the *status quo*. For governments to be able to understand and act on user needs, they also need to be able to understand and act on their own employees’ challenges.

Second, we need to recognize that the success of digital offices isn’t guaranteed; the ecosystem in which they work requires extensive change. There are no magic bullets, but some governance arrangements are provably more likely to succeed or fail. For example, digitally mature companies are almost three times more likely to be characterized by cross-functional teams than their digital laggard competitors.⁵²

A particularly foundational example: There are two common elements for the future of government services:

1. Digital identity – This enables citizens to prove who they are and choose what information they provide to provide their identity. Digital identity has policy and legal implications and presents resourcing and inter-jurisdictional collaboration challenges.

⁵¹ Treasury Board of Canada Secretariat. 2016. Cutting Internal Red Tape: Building a Service Culture.

⁵² Kane, G.C., Palmer, D., Phillips, A.N., Kiron, D. and Buckley, N. 2017. Achieving Digital Maturity. Deloitte.

2. Privacy legislation and the ability to share data (or verify claims) between departments. One provincial official explained that they modeled their access to information legislation after the federal government's legislation, with accountability for responding working minister by minister. When they added the privacy elements, they didn't fully recognize the implications.

It would be hard to overstate how limiting these two features have been for making user-centric government services. This issue was repeated constantly in interviews. People are forced to provide the same or similar information repeatedly, which rules out many options for customization or pre-populating inputs. An example of such customization in action is countries that fill out citizens' tax forms for them based on information collected, and ask people only for confirmation.

One reason that policy infrastructure has not changed is that it's politically dangerous. Any official who champions change would have to deal with concerns about big brother government and take responsibility for future privacy breaches. The other reason is we have no way of knowing the opportunity cost of not making the change – and how many projects don't consider a more user-centric approach because it doesn't fit the legal framework. Given the number of anecdotes interviewees voiced over a year, I submit that the opportunity cost is likely huge.

Digital offices, and chief digital officers or similar can help bring this landscape view closer to the centre of government. Returning to MP David Graham: "There is a tremendous amount of technical expertise in government. Where it lacks is at the decision-making level. Ensuring that we trust our technical advice from the on-the-ground technologists across government would ensure better policy."

I'll add that those technologists work in a context of legacies that don't jive with technology, including accountabilities, structures, policies and hiring practices. We need to change the surrounding system, and those decisions about governance are important and far-reaching. We need to bring a deep understanding of digital services much closer to the center of government so that this lens can start influencing governance decisions, not just technology ones.

DIGITAL MEETS POLICY

How well is government equipped to make policy in the digital age? There are two ways of looking at this question.

One is to consider that governments make policy *about* technology, such as regulations on drones, and future regulations on AI and algorithms (e.g. for insurance eligibility, acceptance into schools, etc.).

The other is to consider how governments might make policy about *anything* differently with a technology lens.

Congestion pricing, for instance, is a government policy decision. In the pre-digital age, pricing had to be established periodically, printed on signs and disseminated to ticket booths. Technology has changed that. People have traffic passes with beacons that signal ticket booths to open the gate and debit their accounts. This also means that pricing could be displayed on digital, internet-connected signage and updated more often – even in real-time as congestion increases – to encourage more people to take different routes in the short term while still encouraging alternatives for transit in the long term.

How many similar possibilities are there for policy instruments? And are policymakers aware of them?

At the Code for America Summit in 2016, former Government Digital Services member Tom Loosemore discussed how the Universal Credit policy team in the UK began working with the digital design team to build an interface for the policy they'd developed. They immediately found issues with the eligibility criteria and with ambiguous terminology. In reference to the policy document, one policy lead said, "I'm realizing that what I'm holding is 500 pages of untested assumptions."

Relating a different story, a former congressional staffer told me that, "If you had a technologist at the table, they could say, 'Let's rethink that, that doesn't work for how we build tech.'"

The important thing to realize is that, in the past, that policy would have passed as is. And government probably would have considered it a success; the difficulties people had with registration would have been scattered and buried in the day-to-day experiences of would-be clients and government service representatives. Many would know the issues with the language, but no one would know the aggregate. Nor could government track the false negatives – people who incorrectly thought they were ineligible for benefits – or those who never knew about the opportunity at all.

It's about more than just missed opportunities. The same congressional staffer told me about the work they did on internet regulation a few years ago that touched on net neutrality – the principle that internet providers should provide equal access to all websites regardless of content or origin. One clear argument against net neutrality is that society has a responsibility to curtail the ability of terrorist organizations to use

their websites as recruiting tools. The primary case for maintaining net neutrality is that, without that principle, internet providers could turn the internet into cable-like packages and charge for access to specific sites, and charge companies for speed standards, further privileging large and powerful companies. After those scenarios, though, the internet is made of edge cases; it's hard to predict exactly how a change could impact small businesses, individuals or advocacy organizations, as each has its own internet use patterns, political context and challenges.

Between the members of Congress and their staff, there were approximately 80 people working on this question, and only a handful had a technology background (drawing from the pool of seven technologists of 15,000 staffers total, as per the interviewee's estimate). "I didn't feel like I had people or expertise to make informed decisions. To be frank, I was [going home after work and] asking my friend at Google for advice. That's not okay! Decent government in the 21st century requires this expertise in-house ... every issue is going to be a tech issue."

"Tech to gov"

Former White House CTO Todd Park described three tiers of what he calls "tech to gov," or ways to connect technology understanding to government quickly.

1. Civic tech

Broadly, this is people building technology with civic good in mind. Usually, this manifests as tools to help people interact with, understand or influence government. Garbage collection schedules or GPS-enabled bus trackers at the municipal level, or searchable records of government transcripts or contracts at the country level are common examples. This also includes a swath of civic engagement tools: mass dialogue platforms like Pol.is or geo-enabled community consultation tools like Placespeak.

2. Technologists in the public sector

Recognizing that the public sector job path for technologists is not perfectly parallel with the private sector, and recognizing the need for specialized and expert talent, governments and civic tech NGOs are creating inroads to government. Code for America connects fellows to teams in government for "tours of duty." The Presidential Innovation Fellows program out of the U.S. White House is a government-led version, though less narrowly focused on technology. Government digital offices often have flexible hiring tracks to bring tech talent into government. As well, there's still the suite of existing options such as interchange between public and private sector, casual and term employment, consultants and straightforward campaigns to hire technologists.

3. Tech in policy

This is the least mature and supported pillar of the tech-to-gov concept. In the U.S., an NGO called TechCongress has launched following the Code for America model, but for policy staff in congressional offices. Nothing like it exists in Canada. One of the few members of Parliament with a tech background put it this way: “More tech understanding in elected offices can be incredibly powerful. It’s enormous, the way in which technology affects the agenda ... it’s critical, and [the tech lens in gov is] quite unique. It’s not common.”

TECHNOLOGY, ETHICS AND INCLUSION

The tone of the conversation about technology is about to change. We should embrace this for three reasons:

1. The internet and digital tools create tremendous opportunity for people to participate in society, the economy, and civic and political life.
2. The opportunity in (1) is not only unequally distributed, it’s systematically skewed.
3. The people who should be responsible for addressing (2) are culturally hardwired to ignore it.

THE PUBLIC GOOD

Government is ultimately about the public good, especially as we move towards a world where governments have a monopoly on neither policy advice nor solutions. Where ecosystem approaches (“government as a platform”), empowered citizens and public engagement are the themes of the day, the public good becomes even more important.

Yet, the logic of efficiency, capitalism and self-service is still pervasive. Government communicators talk about “driving traffic” to websites, which makes sense only in the sales funnel model, where people eventually buy something. Government technology projects are framed in terms of cost savings; rarely in terms of responsibility to serve. Organizations tend to measure the success of the services they choose to offer, as expressed by the people who choose to use them.

We often hear that if government doesn’t keep up in the technology space, it’ll become irrelevant. I don’t know how that could be true. Governments can legislate people to interact with them (e.g. pay taxes) and send people cheques for signing up for programs. I also don’t see why relevance is a defining goal. Governments need to start thinking about how, if they don’t keep up in the technology space, they risk becoming unfair and immoral.

Bianca Wylie, one of Canada’s civic tech leaders, has argued that the instructive lens through which to view government technology is neoliberalism – that the outsourcing-is-best, laissez-faire, new public management mental models are still alive and well.

In parallel, researchers Braybrooke and Jordan dissect maker movements, Web 2.0 and open-source communities, and conclude this:

“The 21st century has been marked by a seemingly never-ending series of technomyths ... The lack of communal, re-appropriated, necessity-based and non-Western uses of technology that we found were obstructed by maker movement progenitors has suggested three core constituents embedded within its claims: technological determinism, neoliberal capitalism and Western-centrism.”⁵³

The private sector technology giants know all too well that diversity in technology is a problem. Where the proportion of women in technology jobs was long on the rise, it peaked around 2014 and has actually dropped since (now hovering below 30 percent for the federal government). Efforts to bridge other diversity gaps – culture, ethnicity, physical disability, etc. – have struggled to gain traction as well.

We have the entire history of governance, both public sector and corporate, to show us how damaging and myopic these systemic biases can be.

What’s going to win? The public good lens, or the myopia and efficiency biases? I suggest that the latter has at least as deep a history in the culture of public service technology, and more worryingly, gets significantly more reinforcement.

EMPATHETIC GOVERNMENT

People rely on digital services such as online banking, healthcare information and government programs on a daily basis. In Canada, our reassuring figures, such as that 90 percent+ of the country has access to broadband, drop to more like 60 to 65 percent when we look at the lowest quartile for income or the highest quartile for age. I heard from one digital lead that some clients had to drive one to two hours to a First Nations band office to access the internet.

I asked MP David Graham about governments’ biggest technology challenges and he said this:

“The idea, for example, of going paperless as a government and doing only direct deposits, electronic tax filing, and so on and so forth, is, in principle, great. But it needs to be accompanied by a concerted, nation-wide effort to ensure everyone in the country is on the internet. Without it, the

⁵³ Braybrooke, K. and Jordan, T. 2017. Genealogy, Culture and Technomyth: Decolonizing Western Information Technologies, from Open Source to the Maker Movement. Digital Culture and Society.

increased use of technology does not improve society, it increases the chasm between rural and urban, between those who have and those who have not.”

Understanding which citizens interact with government through the internet, and how they do so, is foundational to both digital government and open government.

The open government movement calls for the release of more and more data and information online, and for increasing public input into policy. All of this sounds positive, but how many Canadians are actually capable of participating? Think about in-person public engagement on policy issues. Governments can reach half of Canadians (17 million) in the largest 10 cities. They can get to the next 7.2 million in the next 90 cities. That still leaves 11.2 million.

The internet can help by creating the potential to reach more people. The challenge here is that the hardest-to-reach 11.2 million are also least likely to be comfortable interacting with governments via the internet and least likely to have reliable broadband access.

For service delivery, we can make online government services faster and easier to use for people who have the access, comfort and requisite literacy. It’s a win overall, but certainly not equitable. (Governments have fortunately evolved from the “digital by default” language of a few years ago.)

If you’re reading this online, there’s a reasonably good chance that you’re overestimating how many people can understand the language on government websites, especially when it’s derived from law or policy (e.g. for eligibility requirements for programs and tax credits). Likewise, for how comfortable people are sending financial or personal information through the internet, how savvy they are at identifying risks like phishing and malware, or how short-term memory issues and arthritis can affect people setting up accounts.

Here are some common or possible categories for consideration as under-represented:

- youth
- marginalized communities
- indigenous communities and governments
- senior citizens
- low-income people
- newcomers to Canada
- Canadians with low literacy rates
- shift workers, people with multiple jobs, or people who “work away” (e.g. spend two weeks up north and two weeks home)

- people living in rural and remote communities

None of these represent a homogenous community. Within each there's a messy Venn diagram of factors.

Some possible ranges:

- income
- options for internet availability (home, mobile, work, library, school))
- internet speed
- digital literacy
- digital comfort (chooses to use; feels safe and that their privacy is secure)
- literacy and numeracy
- age
- trust in government
- level of political/civic engagement

These factors will change depending on the type of digital activity in which a person engages. People rate different levels of comfort and competence for banking, travel, research, jobs, health information, interacting with healthcare providers, government services, organizing events, acquiring news or using social media.

Ipsos puts 23.5 percent of Canadians in the “low” and “very-low” digital participation categories (e.g. only 5 percent of people in the “very low” category choose to use government services online all or most of the time, compared to 37 percent of the “high” category).⁵⁴

When there are this many edge cases, they start to become the norm.

We've come a long way from the breathless wonder about the internet as a great playing field-leveler, where all citizens would engage and participate in public debate and decision making. We've now realized that the digital divide could actually spread inequality; the blogosphere, for example, is slightly whiter and more male than the elitist traditional publishing market. It's undeniable that the internet is changing how society functions, but our understanding is lagging because there are significant research gaps in Canada. If we want to take citizen engagement or services to citizens seriously, we have to know how citizens interact through the Internet.

⁵⁴ Colledge, M. 2017. [CanadaNext](#). Ipsos.

OPEN GOVERNMENT

In the earlier years of the internet, optimism abounded. The internet was going to be the great leveler of the playing field. It would usher in an unprecedented era of civic dialogue, bridge politicians and citizens, and enable direct democracy. We were told that mass collaboration would change everything.⁵⁵ We were to have nation-wide discussions on the future of our communities and civic institutions, involving all citizens.

We have tempered our enthusiasm since those early days.

We've since realized that the internet is as effective for spreading misinformation as information and that people can use connectivity to subvert or work around traditional institutions as much as engage them.⁵⁶

But the dream didn't die. While the discussion about the promise of the internet for democratic engagement evolved, elements of it coalesced into the open government movement.

The impetus was largely digitally driven. The availability of open data and the drive for greater public participation in government decision making rose in parallel. More people began to understand that governments have neither all the information nor the capacity to find solutions to modern challenges. The data-rich world, enabled by digital technology, helped reveal the limitations.

In the last half-decade, conferences on open data, citizen engagement and open government have become part of the governance landscape in Canada. In October 2016, the heads of the federal, provincial and territorial public services met and set a theme of "open policy making in the digital age." Open government has become a mainstream topic in the government community. So, what does it mean for elected officials, public servants and, most important, citizens?

WHAT IS OPEN GOVERNMENT?

Although the concept of open government is continually evolving, here is a working definition: Open government is a commitment to making data and information about government operations and decisions open to citizens, and creating opportunities for people to engage in public decisions that interest or affect them. Typically, open government includes such ideals as:

- access by all to information laws
- open data (i.e. making government data available for free online)
- citizen engagement in policymaking

⁵⁵ Tapscott, D. and Williams, A.D. 2008. *Wikinomics: How mass collaboration changes everything*. Penguin.

⁵⁶ Dahlberg, L. 2011. *Re-constructing digital democracy: An outline of four 'positions'*. *New media & society*.

- media relations
- petitions to the elected government
- cameras, transcripts and websites for legislatures
- open science and open access where government funding or researchers are involved
- anti-corruption laws
- whistleblower protection
- use of and contribution to open source software
- open source logic in government (e.g. building application programming interfaces to allow third parties to redesign entry points into government information and services)
- spending disclosures
- business registries
- collaboration between governments and external organizations
- procurement and partnerships
- and much more

Perspectives on open government are varied and fall on a wide spectrum, from cynical to optimistic. These include:

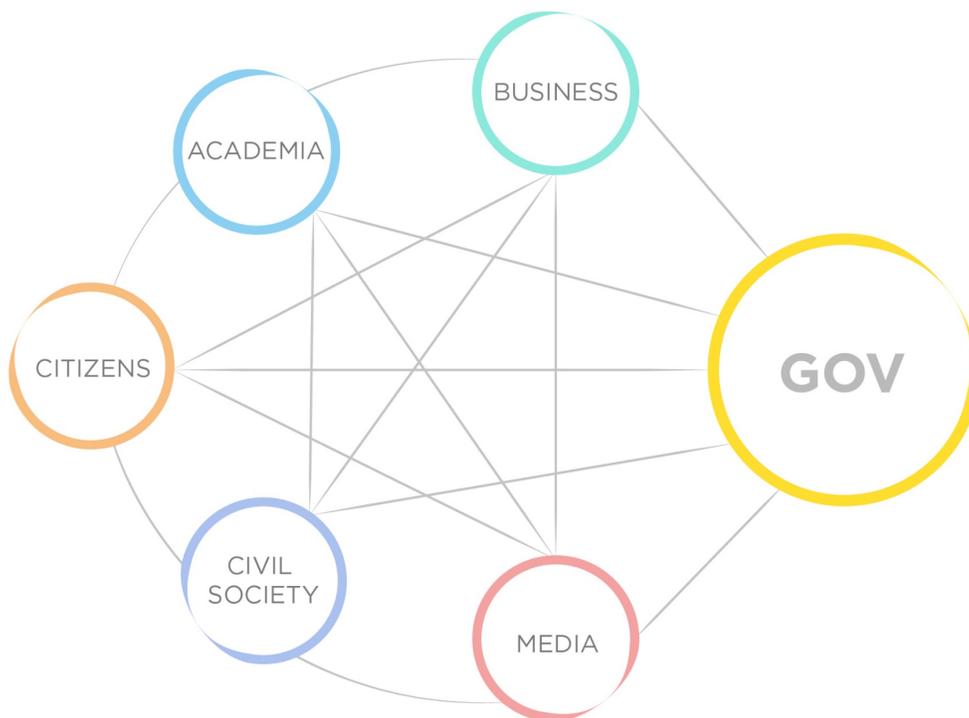
- **Openwashing**, when open government is “all hat, no cattle”. This is where open government is more of a brand and a marketing campaign than action or change.
- **A banner to rally behind**, when open government puts a name to a set of activities and changes and, in doing so, creates community and standards. It provides an easier way of talking about open data, citizen engagement and transparency, which allows links into other government agendas.
- **A period of acceleration**, when open government builds on a country’s baseline of transparency and citizen engagement, adds digitally enabled data and digital information, and helps countries create exemplar programs and raise the average level of openness across government.
- **Fundamental transformation**, when open government represents a radically different way of doing government, and a fundamentally different relationship between citizens and government. All stakeholders are working with the same information, and government has to embed citizen participation in public decisions as a way to improve legitimacy and trust in government.

Looking at the open government movement as a fundamental transformation likely goes too far. First, it discounts the value of existing avenues for transparency and participation such as access to information laws, transcripts of legislative proceedings, mandatory periods for comment on draft regulatory changes, and public and stakeholder engagement. These are a regular part of policy cycles in many programs. Second, it discounts the roles of elected officials, public servants and, in many ways, citizens, who have other things to do with their time but who might be overwhelmed by government requests for input. There are also issues of participation divides (do some citizens get more say than others?), compensating people appropriately for their time, and the elected government’s ability to consider and debate options frankly.

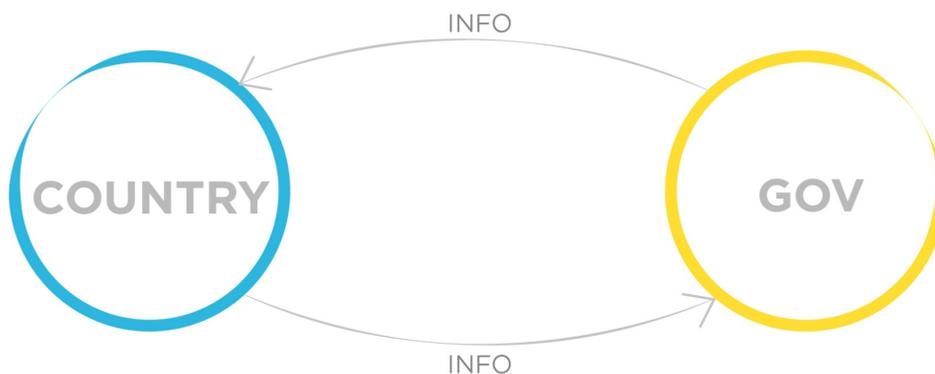
I tend to lean towards the “period of acceleration” concept for the volume and variety of information flowing between citizens and their government. If we are working with a period of acceleration concept, however, the question becomes: “From what baseline?”

Open government as a period of acceleration

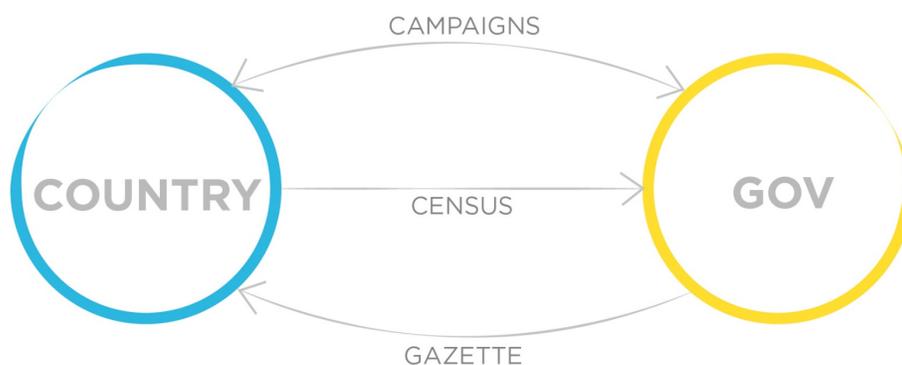
The government-citizen relationship



This diagram shows how information flows between government and stakeholders.



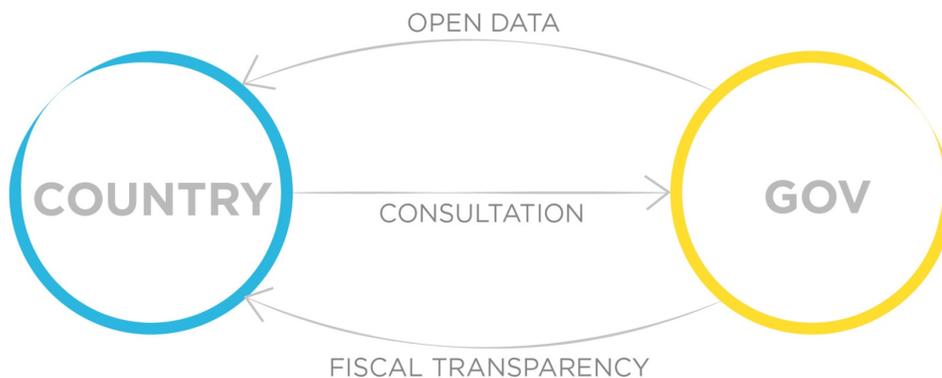
We can make the diagram simpler by collapsing the left side into a more streamlined ecosystem.



There have always been information flows. There was never a point where government was completely closed then suddenly became open. In the 1800s, as this diagram shows, Canada conducted the census to get information from Canadians, created awareness campaigns to encourage people to move west, kept parliamentary records in Hansard and published changes to laws in the Canada Gazette.

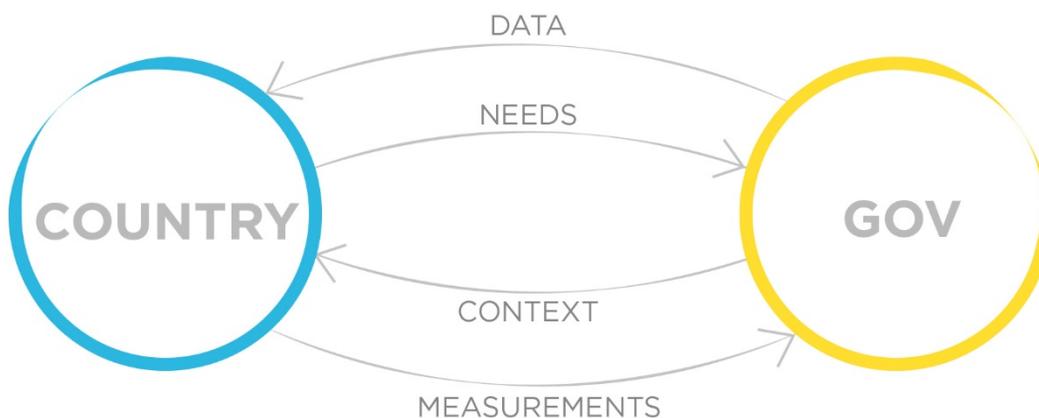
We would not consider these elements as indicative of open government today. But they are part of the ecosystem of information flows on which we continue to build.

Anything that was once called "open government" eventually gets labelled merely as "government." Thus, we'll skip past huge advances such as access to information laws to arrive at around 2012.



The modern push for open government might look something like the diagram above.

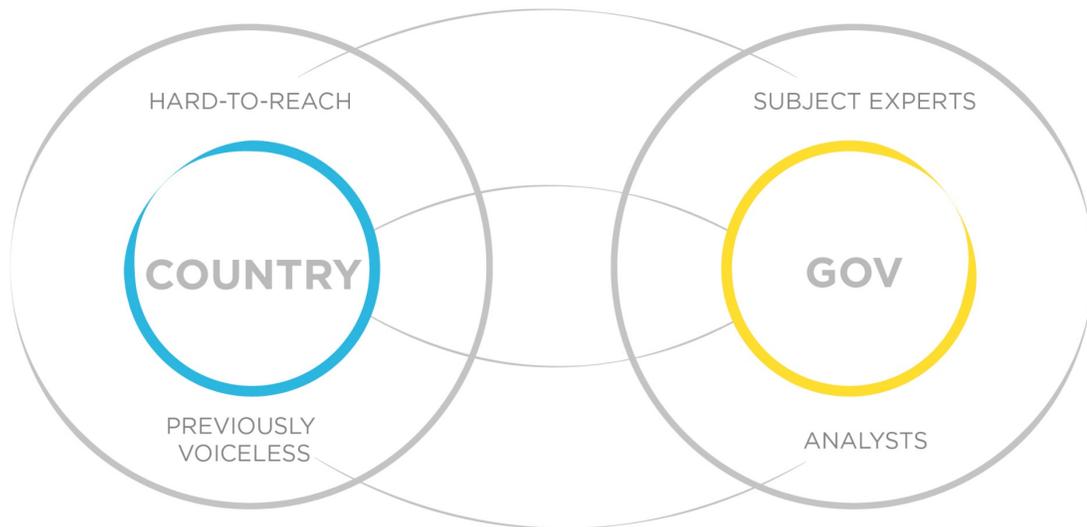
Since the advent of the digital age, governments have provided far more information about programs, policies and services. However, digital communication has also created demand, so governments have started releasing the raw data behind research and statements, collecting more public feedback on policy and posting documents such as expense reports for the sake of transparency.



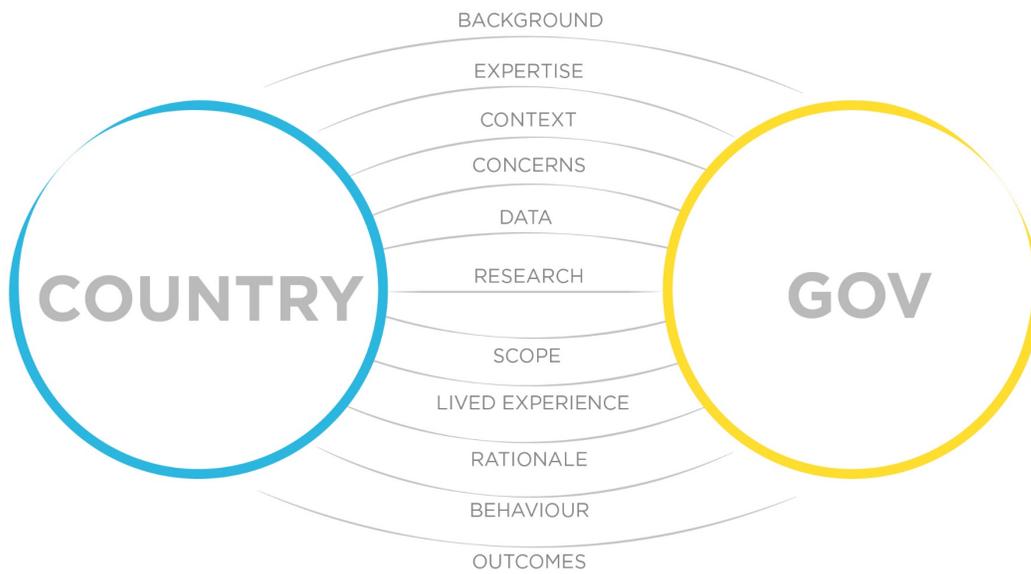
We also see fundamentally different types of information. For example, consider data on water levels and invasive aquatic species, represented by the first line in the diagram above.

While people outside government can use that data, more people can use that data better with a few other links made between country and government. In this case, a group called Aquahacking was able to express its needs to government. To close the loop, the Water Rangers system can now provide reliable measurements back into the data collection process by enabling kayakers and beach-goers to conduct citizen science.

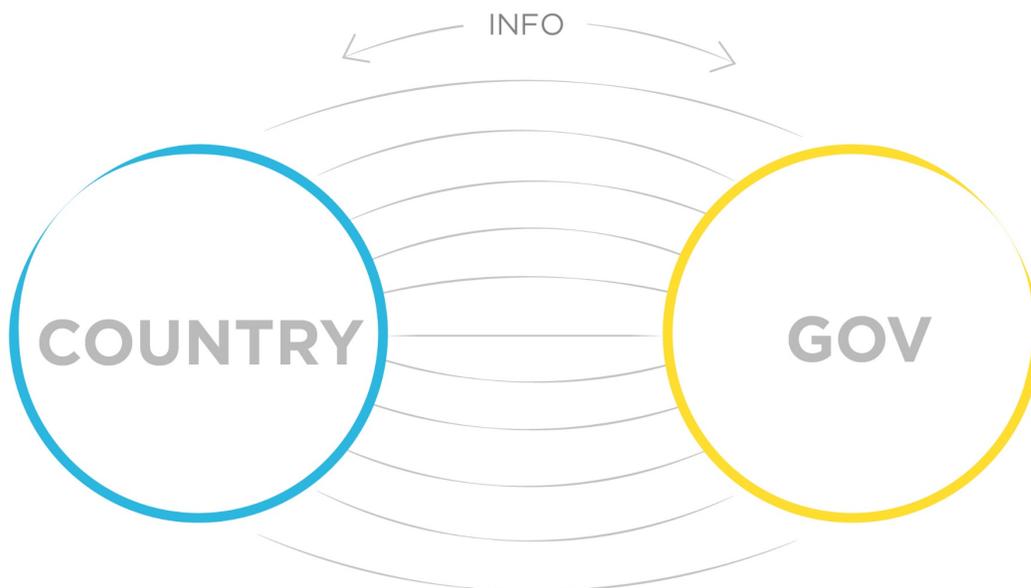
There have always been information flows. Open government is about adding more flows, to more people, in more ways that are more appropriate to needs. This is about government releasing information as well as creating new opportunities for citizens to provide ideas, concerns and expertise into public decisions.



On that note, another expansion to the model is taking place. The information flows were once largely between small groups in countries and governments: lobbyists, the well-connected, and bigger businesses and NGOs for the former, and parliamentarians, communications shops and top executives for the latter. Now those circles look more like this, with many more information flows between many more nodes throughout the ecosystem.



We'll collapse the model again for simplicity in the diagram above, which shows dense, layered, multi-channel information flows taking place between country and government.



Open government describes a period of acceleration. It's a term that connects information flows and expresses a commitment to adding more flows while strengthening the ones that exist. It includes not only data and information, but also more abstract concepts such as context, reliability, rationale, understanding, lived experience, trust and simplicity, each going back and forth between government and country.

This means the question isn't, "How do we open government?" but perhaps, "What do we actually need?" "What can we do better?" and "What do we open next?"

Open government is a relative concept

Unless you want to get into extremes (no information, or open never versus all information, or open always), a country's goals for openness are typically framed somewhat arbitrarily. "Open government" tends to mean "more open than before." For example, compared to global standards, Canada has long been an access to information leader. However, because Canada made that shift back in 1984, the standard for access has risen considerably.

The idea that open government refers to a period of acceleration also means that the low-hanging fruit is gone: the easiest actions, or those that create the most public value, are completed first.

Postal code data, useful for businesses, academics and the social sector for many reasons, is one of the global standard markers for open data among advocates.⁵⁷ This case points to the issue of legacy decisions in modernizing governance. Canada Post became a Crown Corporation in 1981,⁵⁸ part of the wider wave of new public management thinking that advocated bringing private sector practices and incentive structures into government. To measure the performance of managers under new public management, managers needed to be treated as profit and loss centres, responsible and accountable for only their mandate.

Canada Post, like many other government organizations, started charging people for services – in this case the postal code database. When the open data movement took hold, Canada had a foundational dataset "owned" by an organization that didn't fall under the central Government of Canada policy suite. Canada Post's business model, funding and staffing complement was based on assumptions about revenue streams like the one postal codes provide; this is not an easy 30-year legacy to unwind, and there would be downsides. On the flip side, Canada Post "owns" that dataset by virtue of its government-sanctioned monopoly.

⁵⁷ Global Open Data Index. 2015. [Location Datasets: Canada](#).

⁵⁸ Public Works and Government Services Canada. [Canada's postal service: A historical overview](#).

This story is useful because it demonstrates the common threads that run through the public sector: first, it shows that the long legacy complicates change and the design of government institutions; second, it shows the tension between accountability, collaboration and openness.

When we think in terms of open data, open government and citizen-centred services, the dividing lines between government organizations seem outdated and irrelevant. But that accountability underpins Westminster governments. Public sector management is still designed around stewardship of limited accountabilities, not whole-of-government lenses – and it would be poor management for the person responsible for postal codes to release them for free under that legacy logic. The logic of new public management has compounded that.

Trust and transparency

“If angels were to govern men, neither external nor internal controls on government would be necessary.”

– Federalist papers no. 51

Open government increases public accountability, but it is not necessarily a solution to declining trust in government. Often open government has the opposite effect: transparency about government exposes the challenges and mistakes, which erodes trust. Anomalies in officials’ expense reports, for instance, lead people to see government as corrupt. At its worst, government transparency can make people less likely to vote. Research tells us that users’ experiences during service transactions and their personal perceptions of politicians are stronger drivers of trust. But that discussion “has remained predominantly theoretical, and ... characterized by an absence of empirical support.”⁵⁹

I would never suggest that we reverse or slow down efforts toward government transparency. But we must acknowledge the downsides. In the long run, transparency initiatives may lead to better government and governance, and stronger ethics. But, to move toward that possible future, government needs to provide context about the data and information it is releasing and build relationships. I think that makes for a better goal for transparency: that governments’ operations and decisions must not just be available online, but also be understood by the public.

If you want trust in government, worry more about the government part of open government. Transparency about good government will foster trust. Transparency about ineffective government may not.⁶⁰

⁵⁹ Tolbert, C.J. and Mossberger, K. 2006. The effects of e-government on trust and confidence in government. Public administration review.

⁶⁰ Bannister, F. and Connolly, R. 2011. Trust and transformational government: A proposed framework for research. Government Information Quarterly.

Cass Sunstein wrote a paper dividing transparency into two broad buckets – input transparency and output transparency – as a framework to consider the benefits and tradeoffs:

“Government can be transparent about its ‘outputs’: its regulations and its policies, its findings about air and water quality, its analysis of costs and benefits, its assessment of the risks associated with cigarette smoking, distracted driving, infectious diseases, and silica in the workplace. It can also be transparent about its ‘inputs’: about who, within government, said what to whom, and when, and why. The argument for output transparency is often very strong because members of the public can receive information that can help them in their daily lives, and because output transparency can improve the performance of both public and private institutions. Where the public stands to benefit, government should be disclosing outputs even without a formal request under the *Freedom of Information Act*. In fact, it should be doing that far more than it now does. The argument for input transparency is different and often weaker, because the benefits of disclosure can be low and the costs can be high. There is good reason for a large increase in output transparency – and for caution about input transparency.”⁶¹

Output transparency

Some governments (notably the City of Edmonton and the U.K.) have created service dashboards. These are web services that publicly display facts and figures about government operations: transit ridership, snow removal, web activity, etc. The goal is to provide information for both utility (e.g. real-time wait times) and accountability (real-time performance tracking).

The digital government imperative, with a focus on testing and continuous improvement, depends on the kind of data that appears in the dashboards; the open government imperative dictates that it should be publicly visible. Typically, the underlying data feeding these visualized dashboards are also available for re-use and analysis.

Likewise, situated between digital services and information/transparency is the overall web presence of a government. The website design, layout, navigation and content is a highly contextual form of transparency: it’s a reduction to the basic facts people need to know about an issue, policy, program or service.

Increasingly, that contextual information, which can and should change regularly, leads to what we could consider as almost an annex to web content: the documents, reports and data that support and inform

⁶¹ Sunstein, C.R. 2017. Output transparency vs. input transparency. Social Science Research Network.

content are permanently available as open data and open information. These are typically searchable through open government portals, but the ideal is that they are also linked, in context, from content pages.

Input transparency

Input transparency is making public the information, research, advice and analysis that goes into a public decision. From Sunstein's perspective, it carries a higher risk of costs not commensurate with benefits. The adoption of input transparency is why emails between government officials can be acquired via the *Access to Information Act* or *Freedom of Information Act*, why there are cameras in Parliament and why we have access to parliamentary transcripts through *Hansard*. Many people take the concept of input transparency to mean we should have access to every conversation and email between officials in the lead-up to a given decision – and find anything less to be anathema. Returning to Sunstein:

“Inputs belong in a different category. In general, what most matters is what government actually does, not who said what to whom. For the most part, the public is unlikely to benefit if it learns that the Assistant Secretary of State disagreed with the Chief of Staff of the Secretary of State on some trade agreement, or that there was an internal division on how aggressively to regulate greenhouse gases or on the valuation of statistical lives. Disclosure can also have significant costs. Most obviously, it can lead people to silence themselves, or to communicate in ways that cannot be recorded. More subtly, it can divert attention from the important question, which involves policy and substance, to less important ones, which involve palace intrigue.”

I share Sunstein's caution because it's glaringly absent from open government discourse. However, even if governments are firmly committed to open governance, they should be aware of and consider the downsides – not to dull enthusiasm, but to mitigate costs and get the best of both worlds.

The transparency antidote to risk

A couple years ago my team worked on a project that got some negative attention. We took some criticism and my teammates got worked up, looking for ways to defend the outcomes. I had the opposite response: now we had some ammunition to do things better in future.

Across the public sector, the meme seems to be that people are scared of transparency. Which is understandable, because transparency could lead to more scrutiny, more criticism and a loss of control over the conversation.

However, another meme is that bureaucracies are risk-averse and that they stick to the *status quo*. As Howlett wrote, “[a]ltering any aspect of an existing policy regime, or a policy innovation, contains a risk of

failure.”⁶² Transparency about public programs and services reveals the risks and deficiencies in continuing on the current path, giving decision makers an even playing field to make decisions about change.

Here's an example. Edmonton's public dashboard of public policies and services has been running for years: transit ridership, 311 call response times, growth in small and medium businesses, etc. Some are in the yellow (which means they are at risk) and red (not meeting service standards).

No one signs up to work in public service so they can deliver a service that doesn't meet the public's needs. If the details of a struggling program's performance are freely available, the program's managers will have to explain. But the scrutiny will also help ensure the program receives the support it needs to improve. Managers endure short-term stress to be part of something worthwhile in the long run.

Meanwhile, the public has a better shot of getting what it needs, sooner – with respect to both information and public outcomes. Where there's little transparency about current performance, potential changes from the *status quo* get disproportionately scrutinized. And, given that even long-running activities – e.g. how governments have been doing IT – are still experiments with uncertain long-term outcomes, we need to put those activities on an equal footing with their alternatives.

What does open government look like in practice?

Here's the vision: citizens will have a range of avenues to raise issues with government, at many different points in the policy cycle. Governments and citizens will share knowledge, ideas, stories and insight back and forth. Government officials working with people across the world will be able to provide links to the same data and information that government has, which will be publicly available online. Policy decisions will be strengthened by this diversity of perspectives and additional insight, citizens will consider those decisions to be relatively fair and legitimate, and government can be better held to account as the stream of data and information continues throughout implementation.

This happens now. There are some organizations, in some jurisdictions, where that vision is close to reality. Beyond those few, however, the distribution is incredibly wide. It would be hard to summarize the state of Canada's open government activities, as open government is such an expansive term and every jurisdiction is taking a different approach towards transparency, accountability and public engagement. Later sections will examine two themes within open government – citizen engagement and open data – which is where the state of open government implementation will be explored in detail.

For now, here's a short sense of the spectrum:

⁶² Howlett, M. 2014. Why are policy innovations rare and so often negative? Blame avoidance and problem denial in climate change policy-making. *Global Environmental Change*.

- one communications advisor that makes a copy of all major documents in the cloud so they can quickly send information to journalists
- programs with standing pools of interested people with whom you can work through policy issues and proposed regulatory changes
- organizations or entire jurisdictions with public engagement offices dedicated to helping their governments conduct meaningful, effective exercises
- subject matter experts who are fully part of their professional communities, co-authoring research with colleagues around the world

On the other end of the spectrum are teams who have been specifically instructed not to communicate with external stakeholders without the approval of elected officials, and teams scrambling to sort out the basics of citizen engagement after a request from senior officials to engage on a policy topic. Two common, recurring themes are:

- officials asked verbally not to put things in writing, for fear of access to information requests. The fear is that public service officials will propose options that make elected officials look bad – either for considering the options in the first place, or not choosing them in the end.
- the idea that government officials shouldn't share information unless they have to through access to information (e.g. datasets, reports, and non-sensitive and non-confidential analyses).

Government officials have multiple channels through which to share information with stakeholders: websites, open data registries, memory institutions like Library and Archives Canada, government publishers and access to information requests. Or, more simply: there's nothing stopping officials from simply emailing interested people documents, but some government officials have long been trained, via anecdotes, experiences and culture to err on the side of reticence.

The open government partnership

Wherever you fall on the spectrum of ideals for open government – from openwashing to fundamental shift – the Open Government Partnership (OGP) is indisputably a central element in the ecosystem. Launched in 2011, this intergovernmental organization is the nexus from which the open government concept radiates outward, and it sets standards for how governments enable open government.

Membership in the OGP – now 75 countries and counting – comes with a set of requirements, most notably the establishment of two-year action plans capturing a government's commitments to increased transparency, accountability and participation.⁶³ Members are also required to follow specific processes for developing plans, including giving public notice, engaging the public and ensuring that civil society plays an

⁶³ The Open Government Partnership. [What is the Open Government Partnership?](#)

active role. For civil society organizations, particularly those working in the fields of public accountability, civic participation and anti-corruption, the OGP has been both a rallying point and a lever.

While open government focuses keenly on content, it is also something far more meta. Some commitments of open government guarantee access to specific content: archived records, or datasets useful for certain stakeholders. Other commitments change government's approach to the citizen/government interface in perpetuity: principles for citizen engagement, open government policies, or a modern access to information regime. The OGP sets standards for countries with the intention to systematize engagement and transparency for all decisions. Theoretically, this makes it more likely that all decisions not palatable to citizens and civil society will come to light, earlier.

Canada is generally seen as a leader in open government and open data. Canada joined the OGP in 2012.⁶⁴ Recently, Ontario became one of the first OGP sub-national jurisdictions as part of a pilot program. And, in September 2017, Canada accepted the role of co-chair, starting in 2018.

The open government retrograde

One official I interviewed identified a common theme between jurisdictions as “the open government retrograde.” The idea is that open government programs make a year or two or three of progress before a period of slowdown or backslide. This is usually provoked by a change in elected government, though the loss of senior bureaucratic champions can have the same effect. The ideal seemed to be that political support was necessary, but too much was dangerous for longevity. (The same was true for digital government programs in various jurisdictions.)

At the international OGP Summit in 2016, a similar pattern showed up. A rise in populism had swept much of the world and significant changes had taken place in many governments that had been champions of open government. A word frequently used at the summit was “fragility.” After more than 2,500 open government commitments from member countries, the establishment of the International Open Data Charter, and vocal political support, the implication was clear: continued progress towards open government was not certain. Even maintaining the gains that advocates and civil society organizations had made was not guaranteed. Where once open government seemed like an inevitable force, it now looked like a wave that might peak and break. The question for advocates of open government is: How can we institutionalize principles and progress into laws and long-term budgets?

As an example, in Newfoundland and Labrador, the government ran public consultations on open government and solidified an action plan shortly before an election in which the party in power was defeated. The newly elected government had the right and legitimacy to establish and pursue its own policy platform,

⁶⁴ The Open Government Partnership. [Open Data Working Group](#).

but it was faced with a dilemma. The existing plan had become, in effect, part of the previous government's platform. But it was also the platform of the community of stakeholders that had organized around the concept of open government. Its direction had public legitimacy. As one advocate said, "It's not the government's plan; it's our plan." The government eventually relented and honoured the commitments.

The principle behind this tension was expressed by federal members of Parliament and captured in the book *Democratizing the Constitution*. It states that we elect representatives to govern on our behalf, but the current trends towards partnership and power sharing create the risk of undermining democratic legitimacy and the historical role of parliamentarians.

All of which means that open government is not a *fait accompli*.

Dalhousie University's Dr. Jeffrey Roy assessed the tension:

"In sum, the present confluence of traditional policy and structural approaches to public sector information management and communications, the overwhelmingly secretive and adversarial political culture of Parliamentary democracy, and a dated and under-developed political and public discourse pertaining to privacy and data cultures more widely, significantly constrain the legitimacy and capacity of all governments to lead an agenda of open governance."⁶⁵

CITIZEN AND STAKEHOLDER ENGAGEMENT

For this section, I'll tend to write "citizen engagement" as a catch-all for stakeholder engagement, open policy making, public participation, community engagement, crowdsourcing and some partnership models.

Citizen engagement can include a range of involvement:

- keeping people informed about decisions – that is, not even soliciting feedback
- consultation – presenting ideas or drafts for feedback and refinement
- engagement – actively working with citizens and stakeholders on solutions
- co-creation – formally delegating some decisions, or some portion of decision-making authority, to citizens partners

⁶⁵ Newton, K. and Geissel, B. 2012. *Evaluating democratic innovations: Curing the democratic malaise?* Routledge.

Within that range, known to many as the International Association for Public Participation's (IAP2) spectrum, there is a lot of nuance and overlap to unpack.

The push towards open government has led to increased consideration of the role of citizens in public decisions, and the digital age has created new channels and opportunities to engage people. Regardless of whether the approach is digital, analog or both, citizen engagement is a powerful and often misunderstood part of public governance and deserves time and attention.

The digital and analog approaches can't be considered independently. A firm can specialize in either online or offline engagement, but the people inside government who are convening engagement exercises need to understand both to decide effectively how to use them.

The two major points to keep in mind in any discussion of citizen engagement are the following:

1. Citizen engagement can be a source of invaluable insight, legitimacy for public decisions and, often, risk mitigation.
2. Many people undervalue citizen engagement because their experience has been with poorly designed exercises.

This next section will cover formats and approaches, design, considerations for inclusion and ethics, evaluation, data collection and the state of the practice of citizen engagement.

What's the goal?

The goals for citizen engagement differ between countries and government organizations, and vary according to subject matter. Generally speaking, the benefits of citizen engagement are to promote new understandings about policy areas, create buy-in from stakeholders, generate better policy results and avoid costly delays, mistakes and lawsuits.

In the academic literature, these benefits can be formalized into a framework for citizen engagement that includes the following criteria:

- democracy – citizens have a right to participate in a democracy
- suitability – decisions that affect people should be, insofar as it is possible, acceptable to them
- conflict resolution – citizens should be partners in building understanding and identifying common goals

- improved planning – local citizens’ understanding of their [context] should be considered⁶⁶

This last point about incorporating local citizens’ understanding of the area is a recurring theme. However, agreement with this principle is not universal; many have concluded that complex policies such as environmental and hazard mitigation issues should be the domain of those with specialized expertise. Citizen engagement has been shown to push the U.S. Environmental Protection Agency towards preventative decisions (i.e. to make decisions that forego economic benefits disproportionate to assessed risks), and citizens tend to assess risks as higher than experts do. One researcher warned that that “the addition of ... public participation rights risks overregulation when public demand for control is high without reducing the possibility of under-regulation when public interest is low.” The reality is that most citizen engagement, most dialogue between communities, is actually about exploring competing values, not making fact-based cases.

Lindsay Colbourne divided public policy issues into three categories:

1. “Type A situations are characterised by low controversy and/or few alternative options due to constraints of time, procedure and resources, or by the existence of a crisis (and need to act immediately).
2. Type B situations are characterised by a greater number of options, increased uncertainty around the ‘right’ decision and/or the need to make trade-offs and compromises.
3. Type C situations are characterised by the need to make a decision that will affect many stakeholders (individuals, communities and/or organisations) in a situation with much complexity or uncertainty, a range of (often entrenched) views on the ‘right’ decision and a strong likelihood of conflict and resistance.”

For example: a Type A situation might be the construction of a bridge over a water system where there are no endangered species, few or no residents nearby, and no species relying on traveling the length of the body of water for spawning or mating. A Type B or C situation might be the construction of a pipeline crossing a variety of regions and ecosystems, with multiple religious/cultural, corporate, environmentalist and jobseeker interests all concerned about elements of the project. It is important to recognize, however, that the complexity of both people and ecosystems means that situations considered to be Type A may quickly become Type B or C situations (or it may be revealed in hindsight that a given situation should have been treated as Type B or C).

Applying the conceptual framework to the B and C types of citizen engagement situations, Colbourne’s model says that, despite the greater up-front cost, citizen engagement will be financially cheaper in the long-run than having government unilaterally make and defend a decision. In the digital age, citizens know more

⁶⁶ Shepherd, A. and Bowler, C. 1997. Beyond the requirements: improving public participation in EIA, pp. 725–738. *Journal of Environmental Planning and Management*, 40(6).

about government and about how they can make their voices heard. Governments have work to do to simply respond to increased demand for horizontality and inclusion.

This is often missing. Governments need a firm understanding of participants' goals and motivations, and what constitutes a success in their eyes. Many authors refer to participants' goals in realist terms, insofar as they confer legitimacy or efficacy on the goals of those hosting citizen engagement processes. Likewise, Cosmo Howard critiques "citizen-centric" models of evaluation, in that they "focus on services that governments had chosen to deliver, in the manner in which they had chosen to deliver them."

Engagement is also a fundamental response to the idea that governments are increasingly realizing that the world is too complex, and too contextual to people's needs and experiences, to manage in a vacuum. Whether the question is changing technology, frontline service, or multi-faceted economic questions, governments can get much closer to a true understanding of the problem by incorporating information from many viewpoints. And in many cases governments can increase their processing and analytic power at the same time.

Which leaves the last question of how engagement turns into "good policy." Practitioners have developed general guides to evaluating the success of citizen engagement, but the difficulty in establishing what constitutes the right decision – given the range of citizens' views and preferences, and in understanding the extent to which citizen engagement influences policy decisions – makes standardization and comparability elusive. We can at least, however, assess whether the process was sound and whether participants were provided with the tools and time required to contribute.

Designing citizen engagement

This is where governments need to get: assumptions about format, approach and stakeholders must be temporarily stripped out of discussions about engaging citizens. An uncomfortable number of citizen engagement exercises start with a phrase like "let's engage people on Twitter" or "let's use X platform." Those phrases create too many limitations and too little room for design and due diligence. This is true even for programs that engage regularly; the point in the policy cycle changes, the conversation changes, the stakeholders change.

The starting point should sound more like, "Should we engage stakeholders?" and the answer has to come through a cycle of research and design.

Citizen engagement is a field of practice and study similar to a blend of community management, facilitation, design, project management and policy work. There are training programs, professional certifications and practitioner conferences. People spend entire careers becoming experts.

Citizen engagement exercises require a host of design decisions. For example:

- medium – technologies (including digital, mail, telephone and SMS), platforms and software, locations and times
- scope of participants – stakeholders, experts, anyone interested, demographically representative samples, groups to which government has legislated commitments
- formats and facilitation – everything from online votes to months-long, deep discussions
- scope of policy or decision up for discussion
- level of empowerment of stakeholders
- supporting communications

None of these elements should be considered lightly. In some cases, governments are asking for hundreds or thousands of hours of effort from participants; the effort and diligence that goes into designing an effective process should respect that.

Techniques, formats and approaches

The potential forms for public engagement are nearly unlimited. They can be suited to various levels of participant involvement, group sizes, offline and online channels, and stages of the policy cycle.

Let's start with a common core of techniques to give a sense of variety:

- **Draft regulations or laws for comment** – Perhaps the most common formal consultation technique, government posts proposed changes (and, often, backgrounders with rationale and research) for stakeholders to respond to.
- **Ideas markets** – This is where the convenor posts a short backgrounder or goal and asks a community or the public for ideas. This often takes some form of, “What should the government do [on X issue/to improve Y]?” It may include discussion or voting, such as with Ontario’s Budget Talks program.
- **Public dialogue forums** – This is where convenors seed questions with the goal of having stakeholders and interested parties discuss and dissect ideas among themselves, with varying levels of government intervention and encouragement.
- **Public workshops** – These are typically in-person community meetings where government presents and participants either respond or work in groups and report out the highlights. The Government of Canada’s public engagement on electoral reform included a series of public workshops.
- **Minipublics, citizen’s panels and citizen’s juries** – These bring together a representative group from the stakeholder population to discuss issues and recommendations in depth, often over

months, and usually with some form of accountability to the broader public (e.g. public updates and reports). The electoral reform that took place in B.C. in the early 2000s provides one of Canada’s best-known examples.

Table 1 shows more examples of other possible formats.

Appreciative inquiry	Citizens’ juries	Citizens’ panels
Community empowerment networks	Consensus building/dialogue	Consensus conference
Deliberative mapping	Deliberative polling	Democs
Electronic processes	Future search conference	Participatory appraisal
Participatory strategic planning	Planning for Real	Open space technology
User panels	Youth empowerment initiatives	

Table 1: A sample of possible citizen engagement formats

Formats can also be simple and traditional: meetings, phone lines, email addresses for comments and concerns, webinars and focus groups.

It’s worth considering the dividing lines between formal public engagement exercises and any other way that governments gather input and insight into a public issue. Public engagement exists in an ecosystem of inputs: petitions, letters and calls to elected officials, public opinion research, media stories, data, research, social media, environmental scanning, lobbying, civil society campaigns. It’s often driven by the public agenda that elected officials set out in party platforms, the Speech from the Throne, budgets and other direction-setting documents. The public agenda can be a tool for both inviting and excluding topics of public conversation.

I wrote that there is a huge number of formats because practitioners design engagement sessions down to the details, the personalities in the room, and the minutes and seconds available for a particular section. An in-person public workshop, for example, can include a range of techniques for group conversation and deliberation, can be paired with real-time digital polling, might use paper templates and guides, sticky note ideas and categorization, and so on.

When to use what technique is beyond the scope of this report, but here's a reasonable rule: it's hard to read and then use best practices; it's far better to work with the people who could write those practices themselves. For the governance perspective, we need to ask a set of questions:

- What problem are we trying to solve?
- What do we know? What do we not know?
- Who is interested and affected by this issue?
- What input do we need? (e.g. are you looking for a lengthy discussion paper from a think tank or a collection of ideas and concerns from the public?)
- What elements of the policy decision are we unsure of or willing to change?

Why government social media isn't social

Social media has been suggested as a way to bring citizen engagement into a modern, popular and real-time ecosystem. Thinking about citizen engagement in this context provides some useful insight into the challenges governments face in engagement.

Almost two thirds of Canadians have Twitter accounts and log in at least once a month. Twelve to 20 percent of Canadians use LinkedIn. Facebook claims that users spend an average of 50 minutes per day on their main platform, plus Instagram and Messenger.⁶⁷

Social media was once considered to have massive potential for governments connecting with citizens. However, here's the Organization for Economic Cooperation's assessment:

"[W]hile governments are increasingly using social media, many are still using it primarily as a traditional communications mechanism rather than for opening up policy processes or transforming public service delivery."

⁶⁷ Stewart, J. 2016. [Facebook Has 50 Minutes of Your Time Each Day. It Wants More.](#) The New York Times.

If the goal for social media is profit, reach or providing a supplementary channel, then one-way messaging might work perfectly, even if it offends social media purists. But if the goal is to open up policy processes or transform service delivery, responsiveness and interactivity become central.

I think government can get there in a limited and particular set of circumstances. So why aren't we there yet?

The state of social media practice worldwide is still one-way in government. This means there are more barriers to genuinely interactive government social media than it may have first seemed. Maybe it's just culture change that hasn't taken root. Maybe it's approval processes that make it hard to be "social" and responsive; it's hard to carry on a conversation while routing responses through half a dozen people, and the time investment smothers the engagement benefit. And so on. The state of practice is similar in the private sector. Clever back-and-forths between companies and customers are the exception rather than the rule.

To create deeper interactions, social media teams in public and private sectors need to dig for answers, which breaks the responsiveness element.

Governments could try to ask general, light questions on policies or services via social media, so that in-depth knowledge is not needed. But, inevitably, a complex request or question will arise. At that point, the only response is, "That's interesting, we'll consider it and get back to you." Suddenly, the people engaging are reminded that they're not talking to the people responsible. The spell is broken.

People talk to people, not organizations, and it's impossible to have a conversation that hypothetically could include everything that an organization "knows." Departments are too big for conversations.

So, when and where can government social media get social? There are three axes to consider: source, length of time and officialness/institutionalness.

For source, the question is to what extent the engagement is led by programs/policy/services versus communications, and the short answer is that you need both involved.

There's a range for the length of time of social media interactions: from point-in-time interactions, such as hour-long Twitter townhalls, to ongoing interactions, such as complaints and comments, which can come in at any time.

For officialness/institutionalness, we have large, institutional and official social media interactions: again, this includes townhalls, but also includes announcements, senior executive corporate accounts, and the public inquiries clearinghouse model as applied to social media. At the bottom, we have individual public servants using social media for work.

Government can't be social via its institutions because they're too big for conversations. It can't be social via individuals because, theoretically, that doesn't jive with the public administration culture in Canada.

Practically, however, this is all already happening. In many cases, the professional and personal networks of individual public servants are going to be a greater source of insight and input than any official channel. Every public servant involved in a professional network is adding their own information diet – often fed through networks and social media, and in aggregate that’s substantial. This creates an imperative that the public service ethos be well represented in such discussions about public decisions and inter-sectoral collaboration and partnerships. It also requires some introspection about professional social circles: if public servants have greater insight into stakeholder communities, that’s a boon to public decision making. However, if that insight is asymmetrically greater in different communities, the costs may outweigh the benefits.

It’s worth taking a minute to explore inclusion in policy discussions, building on a different angle of the same problem from the section about empathetic government.

For inclusive policy, we need inclusive policymaking

More than 1,500 jurisdictions worldwide now conduct participatory budgeting – giving the public control over some portion of public funds. When citizens deliberate, hear diverse viewpoints and consider trade-offs and compromises, more inclusive and long-term policy decisions tend to result. The inclusive process corrects and balances our individual biases.

If Canada’s goal is inclusive economic growth – across geographic, demographic, economic and cultural lines – then we need more inclusive policy discussions about growth.

Let’s start with gender. When asked about public issues, women are more likely to consider the needs of vulnerable populations. Studies suggest that women would also set a more secure social safety net.

Our biases also stem from culture. Canada is much more individualistic than the countries from which most newcomers arrive. That is, native-born Canadians are more likely to believe that people should focus on taking care of themselves and their families; people in many newcomer communities tend to have a more community-oriented perspective.

So, what does our policy community look like? Well, not quite like Canada.

While 2015 was famously the year of the gender-equal federal cabinet, the House of Commons is still only 26 percent women. And 13.6 percent of members are visible minorities, compared to 19 percent across Canada. Indigenous peoples make up three percent of the House against 4.3 percent of the Canadian population. MPs’ average age is 51; Cabinet just got somewhat younger in the most recent shuffle but is similar at 50. Canada’s median age is 40.5.

The conversation changes depending on who is in the room. Research shows that members of Parliament from visible minority populations are more likely to raise “ethnic minority issues.” Non-visible-minority MPs who represent ridings with diverse populations also increased that likelihood, but not as much.

Federal public service employment tracks above “workforce availability” for women, visible minorities, Indigenous peoples and persons with disabilities, but slightly below when looking at the executive cadre (except for persons with disabilities). The average age is 45 years old. However, there’s one way in which the bureaucracy looks nothing like Canada: 41.7 percent of the public service works in the National Capital Region.

How about the private sector, which actively engages with government to promote a more growth-friendly policy platform? About 19.5 percent of positions on boards of directors across Canada’s top 500 companies are held by women.⁶⁸ Only 7 percent are under 50.

This is important because group composition affects discussions. Tali Mendelberg and Christopher Karpowitz studied gender and group dynamics through groups composed of different proportions of women. In groups that were less than half women, the men managed to consume disproportionate amounts of the speaking time and women were less likely to “raise the needs of the vulnerable and [argue] for redistribution” than in gender-balanced groups.

When we can’t ensure inclusivity through numbers, we can still improve inclusivity through design. Convenors of policy discussions have to be aware of the social and power dynamics within groups and address them. If you can’t fix the numbers, you can still fix the relative air time.

That leaves us with two requirements for inclusive growth policy:

1. Bring more people, from more walks of life, into the policy debate. Be aware of the privileges that make it easier for some to engage in public life, and lower the barriers to entry for consultations, policy communities and careers.
2. Recognize that providing people with platforms to have their voice heard isn’t enough. If the human dynamics aren’t understood and accounted for, a systematically skewed policy discussion can result.

Both of these recommendations require relentless examination and correction of our personal and institutional biases: who’s in the room, how we talk, and how we hire.

⁶⁸ A better gender balance will likely also increase economic growth; private firms that include women on boards of directors outperform their peers by 26 percent on return on capital investments.

Government, citizens and power

It's easy to conclude that the low-risk option is government not opening the doors at all – or government asking for input but holding all of the decision-making power. This gets the calculation exactly wrong. When the system calls for government to listen, consider, then decide, government becomes responsible and accountable for the process, the accepted ideas, the rejected ideas and the outcomes. Meanwhile, participants are relegated to the role of recommender, which means they're absolved of any ownership over the decision. It's a bad deal for both sides.

Alternatively, making stakeholders at least partially responsible for the final decision does a number of things:

- It forces recommenders to think through the implementation of their recommendation, not just the goal.
- It makes recommenders accountable for the outcomes, not just the conspicuous promotion of the agenda they represent.
- It removes recommenders' safety net of knowing that someone else is going to further study and assess their recommendation – which motivates diligence.
- It encourages compromise and consensus.

Providing a clear path to influence the decision dampens some of the incentive to conspicuously promote one's agenda through advertising, campaigns and media. This is a fair and vital part of our democracy, but all too often boiled down to a one-sided argument. Nuance is often the first casualty of our modern communications landscape.

Until governments gain a degree of comfort with genuine participation, we have a vicious cycle of government having to keep control because they don't know what would happen otherwise, and they'll never know what would happen otherwise because they keep control.

Also, empowering stakeholders is likely less risky than it seems, partially because we misunderstand the level of risk in the *status quo* due to our assumptions about power. We tend to look at it as, "Governments could share decision-making power with citizens." But that mistakes where the power lies.

An IAP2 Canada member, Steph Roy McCallum, put it nicely (emphasis mine):

"[Our model of engagement needs] to be re-thought because it is presented as if the decision-maker has the control, and that the Inform and Consult levels are irrelevant at best in our complex, controversial world, and at worst are part of the problem by contributing to polarization and conflict... [the idea of empowering people] suggests that the organization or decision-maker has the

ability to empower others, without considering that **communities and individuals have power of their own that is not conferred on them by the decision maker.**”

The mental model shifts from government as the central authority to government as a node in a network.

Digital versus analog

A lot of citizen engagement will be online. And it can be incredibly effective. The distinction between online and offline is fading. I’ve defended the idea that online platforms are no worse than in-person ones; they are just suited to different interactions.

Yet, we have reason to be wary.

Let’s shift gears a little and talk about digital audio. When CDs came out, they completely sidelined vinyl albums and cassettes in a decade. Vinyl basically ceased to exist. Yet today we’ve seen seven years of double-digit growth in vinyl sales and they’re now a \$1B market, representing 15 to 18 percent of physical music revenues.

That happened because we over-adjusted to the digital audio option. It was seen as the future, and we wanted to future-proof our collections. We wanted to virtue signal the idea that we were modern and technologically savvy. But, over time, those psychological bonuses to the economic decision of audio formats subsided and became able to decide in a less biased way between the two options. At that point, we rediscovered the virtues of vinyl: the quality, the packaging, the art and the ritual.

But that didn’t change the fact that digital audio is the absolute standard – and for good reason.

Online citizen engagement is similar in some respects. It’s seen as nearly free. It’s seen as easy. But, most of all, it’s seen as inclusive and fair because it can plausibly reach the entire intended audience. (Though it’s easy to forget some highly successful analog engagement processes, like the Citizen’s Forum on Canada’s Future in 1990–1991 in which 700,000 Canadians participated.)⁶⁹

More simply: Online engagement gets used as a get-out-of-jail-free card for thinking through your goals, engagement design and audience. It’s seen as the future, *ergo* it’s good.

Sometimes online engagement works that way and other times it does not. There are many reasons, but let’s look at three:

⁶⁹ Longo, J. 2017. The evolution of citizen and stakeholder engagement in Canada, from Spicer to #Hashtags. Canadian Public Administration.

First, digital tends to be shallow. As Robin Gregory put it:

"When hundreds or thousands of stakeholders are asked to (a) speak before a panel for ten to fifteen minutes, (b) submit short written statements to a government body, or (c) participate as representatives of identified interests, then the invitation contains an implicit request to be either superficial or one-dimensional."⁷⁰

This effect is exacerbated by our current culture towards online engagement. We hear every day that public policy issues are complex, yet we ask people for bullet points. At the same time, it's possible to create small, deliberative working groups that get into the complexities and nuances of an issue. They may report analyses or pros and cons to a larger interested audience, who may vote or be surveyed in a superficial way. This can all be done online. But people tend to assume online always means open, public, easy and everyone.

Second, digital lets us think we can skip design and facilitation. When you're doing in-person engagement, the level of design is incredibly involved. Session designers or participant experience designers think through to the individual personalities in the room. They adjust the timing of parts down to five-minute increments. They pull from a library of techniques for group discussion. And they actively facilitate. We're only flirting with that level of sophistication online; this is where low-fidelity MP3s started getting replaced by high quality-digital audio, but we're not quite there yet. It's a little bit about the technology, but far more about how we use it.

Third, the digital divide discussed in the section on empathetic government is real. If citizen engagement in policy making has real power over the policy process, and if access to those engagement opportunities is unevenly distributed, it's as easy to reinforce power dynamics as overcome them by opening up governance.

What's next

Public engagement on policy, program and service development is going to be an increasingly important element of governance. There's always a slate of ongoing public consultations in Canada, but the pace has picked up in the last year largely because public consultations are increasingly intended for a broad public audience, rather than niche stakeholder groups.

As a general rule, government consultations are designed to understand what citizens value, but in a qualitative rather than quantitative way. That is, public input is viewed as a source of ideas and general feedback, not as empirically rigorous data. As currently practiced, public engagement is better suited for generating general insights, achieving social licence for policies, and avoiding major pitfalls than it is for systematically adding to the evidence base for policy options.

⁷⁰ Gregory, R.S. 2017. The Troubling Logic of Inclusivity in Environmental Consultations. Science, Technology, & Human Values.

Each public engagement activity is important. Each represents an experience through which citizens' trust in government, and their willingness to participate in future engagement, can rise or fall. Public perception of the value of these engagements is crucial. The major variables affecting the value of a specific engagement are the extent to which the public's input can influence policy and the extent to which governments can prove that the input was meaningfully considered.

While it can be appropriate for governments to seek public input for general ideas and feedback, there's a massive downside. The more public input can be considered hard evidence, the easier it is for governments to incorporate the input in policy decisions, and the easier it is for governments to demonstrate how the input influenced policy. There are many goals to engagement, including education, consensus-building and legitimacy. But insofar as better policy is a central goal of soliciting public input, engagement should be designed to produce data.

Public engagement is complex. There are hundreds of studied formats, each requiring a set of detailed design decisions to align governments' needs with citizen satisfaction while producing the required data and insights. However, the way we govern public engagement today means that most design decisions are lost. Put bluntly, the situation is analogous to a first-time homeowner overruling an architect on how their plumbing and electrical will work.

Governments need to build capacity for public engagement – particularly digital – but they may already have more capacity than they realize (we will return to this in the recommendations section). In lockstep, governments must also develop governance that prioritizes expertise and good practices over *ad hoc* goals.

OPEN DATA

I introduced the idea of open data as the practice of governments making data available for free online, but let's expand that definition to include datasets – rows and columns of values for a common view, plus less human-centric formats. Open data under this definition is not a stack of paper; people outside government have to be able to digitally work with, crunch and analyze the data too.

In the course of administering programs and services, governments collect and create tremendous volumes of data. Just a few examples include mapping data, legislation data and public contracting data. But the list is long.

For a sense of how deep this rabbit hole goes, Canada's data holdings include the volume of maple syrup, in litres, produced by each province and every cheese made in Canada by, among other things, animal source and fat content.

Most provinces and territories in Canada have an open data portal (there are nine as of writing), as does the federal government, with a combined 250,000 datasets. There are almost 100 open data portals for municipalities and regional bodies or partnerships.⁷¹

For each of these datasets, there's a government program, policy or service that relies on it. Most jurisdictions have built their privacy legislation around the idea that data collected from citizens can be used only for the purposes for which it is collected, and each department is responsible for the stewardship of that data.

WHO USES OPEN DATA?

Any given dataset can be useful beyond its program. Water level data from the Department of Fisheries and Oceans can inform climate policy in the department of Environment and Climate Change Canada. Many businesses, academics, civil society organizations and citizens can make use of this data as well, which was collected or created with public funds. The uses of open data are as variable as the creativity of citizens. Let's examine a few categories.

Business

In Canada, government framing of open data for the last few years has tended to focus on its potential business value; entrepreneurs could use government open data to rethink government services and create useful apps for Canadians. I would suggest that the greater value for the private sector is in business intelligence, analyzing datasets (e.g. labour market forecasts, imports/exports) for business planning

⁷¹ Government of Canada. [Open Data Across Canada](#).

purposes. A global stalwart of the open data movement, Canadian David Eaves, has said that he has often had requests about how to start an open data business. In 2014, his response was that people were asking the wrong question. “Focus on that third word – business. That’s the one that really matters.”⁷² That is, worry about your business first, and if open data supports it, great – but it may not. This was a needed gut check amidst language like “open data is the new natural resource” and “open data is the fourth industrial revolution.” The focus on business value obscured what I’d consider to be likely the more high-value set of users: researchers.

In truth, the open data movement in Canada was driven by researchers, librarians and academics in the early 2000s. (If you’ve ever used open data, thank librarians. They have the vital combination of an interest in how data and information is managed and the expertise in categorization, data standards and metadata that allowed any of us to continue finding *anything* as data portals grew in scope.) The open data movement started even earlier among the geospatial data community.

Academic and social policy researchers

This category seems to get less attention as a use for open data. In a well-researched work there may be hundreds of sources and references, and what’s open data and what’s everything else doesn’t exactly jump out.

As an example, Toronto-based researchers published a paper called *Neighborhood greenspace and health in a large urban center*. They found that “having 10 more trees in a city block, on average, improves health perception in ways comparable to an increase in annual personal income of \$10,000 and moving to a neighborhood with \$10,000 higher median income or being 7 years younger.”⁷³ They found this information by using City of Toronto open data on tree cover (down to the location of individual trees) and Government of Canada open census data on health and income. The fact that open data was instrumental to the research is largely invisible to readers, and entirely invisible to anyone reading the short-form mass-market news and magazine pieces that came out of the research.⁷⁴

Journalists

Most people will never interact with open data, and any value it provides to their lives will be through “infomediaries” (or “techno-mediators”).⁷⁵ A news story written by a data-savvy journalist that contains

⁷² Eaves, D. 2014. [The dangerous mystique of the “open data” business](#).

⁷³ Kardan, O., Gozdyra, P., Mistic, B., Moola, F., Palmer, L.J., Paus, T. and Berman, M.G. 2015. Neighborhood greenspace and health in a large urban center. *Scientific Reports*.

⁷⁴ Scharper, S.B. 2015. [Want a healthier, more just city? Plant trees](#). Toronto Star.

⁷⁵ Peixoto, T. 2012. The Uncertain Relationship between Open Data and Accountability: A Response to Yu and Robinson’s the New Ambiguity of Open Government. *UCLA L. Rev. Discourse*.

context or figures made available by open data will look like any other story to the reader. It will be the same for any academic and think tank research, or the public dialogue such research informs or catalyzes.

Other researchers and analysts

Another category of open data users is other researchers and analysts within a single government. I spoke to one government employee who was excited about open data commitments because they spent so much time parsing and scraping government websites for data, asking colleagues in other departments for datasets and getting negative reactions (particularly when that data would be subject to access to information laws). Two curators of open data portals reported approximately 30 to 50 percent of traffic came from IP addresses within their own government.

THE VALUE OF OPEN DATA

Proving the value of open data has been elusive. While governments can watch traffic and downloads, they can't track what people do with data.

NYU's Govlab launched the Open Data 500, a search and survey for 500 companies that use open data and what they use it for. Canada followed suit with the Open Data 150 led by the Canadian Open Data Exchange. The goal was never to establish an exhaustive list, but instead to curate a list of use cases and stories.

A few other figures have surfaced over the years. Natural Resources Canada's research found that "the uptake of 'open' geospatial data (data available at minimal or no cost and for use without restriction) [provided] an estimated additional \$695 million to GDP and \$635 million in real income in 2013."⁷⁶ This refers to all open geospatial data, not just that from the Government of Canada.

The Open Knowledge Foundation's research came up with findings that firms relying on geospatial data grew at faster rates in countries with open data programs, and that providing open data increased re-use by 10 to 100 times.

In my view, the value of open data is incredibly contextual. Within the user groups, above, there's a massive variety of use cases. And in the context of collaboration, horizontality and citizen engagement, having the raw material for decision making out in the open changes the way governments can work with actors in every sector. It's a fundamental building block for governance in the digital age.

⁷⁶ GeoConnections. 2015. Canadian Geomatics Environmental Scan and Value Study. Natural Resources Canada.

Value or principle

Alex Howard of the Sunlight Foundation laid out the state of the open data movement after the 2016 International Open Data Conference, including this:

"The deadline for more evidence is getting close. Politicians will always question transparency, which puts a premium on demonstrating why it matters in terms that the public understands and can apply in their lives."

I see two possible routes for the future of open data. One is the value route, where governments firmly decide that providing open data is worth the cost and effort. The second is where governments begin to talk about data the way they do about access to information laws or official languages. The framing becomes about obligation, expectation and legal duty. In Canada, we don't concern ourselves with the pros and cons of releasing things in both official languages; we do it as a matter of policy.

There's a cost to putting open data on that plane of existence; it involves re-tooling decades of information management systems. In the meantime, we have the most expensive model: (1) internal information architectures, (2) open data registries and (3) access to information requests. We'll always have all three, but right now many documents will exist in each system, where the long-term for open data is minimizing duplication and triplication.

Right now, the lifecycle for records includes internal use followed by eventual release, sometimes being requested via access to information laws in between. The ideal would be one permanent container with a link per document that lasts from creation to disposition. Once documents and data start going straight to a storage solution that can be made open to the public without moving the content, several things will happen:

- Costs will go down.
- Analysts in other parts of the same government will be able to find and use data and information sooner.
- When people who work in government want to work with those outside, they can simply link to the already-open data they're working with.

The state of the union

Let's revisit the Gartner Hype Cycle model in which emerging technologies go through a period of inflated expectations, then what is called a "trough of disillusionment" when people question the potential value. Finally, they settle into a "plateau of productivity."

For many open data advocates, the productive uses were never questioned. For those who have been using government data for a long time, the question was always, "Why not just release the rest of it?"

Alex Howard's assessment of the need for evidence of value suggests that the more cautious, reflective period of the hype cycle has arrived.

Every two years the Government of Canada consults publicly on the future of the Open Government initiative. Stakeholder comments and requests show a shift in attitudes over time.^{77 78}In 2014, sentiment was aligned with the open-by-default principle: that all government data should be publicly available unless there are confidentiality, security or privacy concerns. In 2016, the open-by-default theme was still there but for every such comment there was a competing one about maximizing value, prioritizing high-value datasets and ensuring stewardship of public funds. At this point, I'm segueing to educated guesses, but a parallel theme of continuing stakeholder concerns about data quality, findability and timeliness may explain it. "Release early, improve often" was the best-of-both-worlds mantra for some, but that's an additional burden on often already over-taxed organizations. While some jurisdictions have dedicated open data resources, they tend to be at the point of release – not collection, curation or clean-up.

Paraphrasing a long-time user of Statscan data who offered to test an open data portal: "I wouldn't use this, and I can't think of anyone I know who would."

There's another issue. A lot of datasets that may never get used by anyone outside the government are cleaned, audited and labouriously examined for personal information – all time-consuming exercises. While some government data curators are enthusiastic about having a platform to share data with partners and stakeholders, they're ultimately accountable to deliver on their core program or service. Open data is just one more corporate responsibility for which they're unlikely ever to see personal reward. In fact, many data curators believe that they are exposing themselves to risk if datasets accidentally contain sensitive or personal information.

To be blunt: Canada is ranked among the best in the world for open data programs.⁷⁹ We could categorize this fact as "true but unhelpful." If data is the foundation of modern governance, it will require sustained attention and commitment.

The open data iceberg

The visible part of open data programs is a jurisdiction's open data site and possibly their chief data officer. In reality, data is streaming in from hundreds or thousands of teams across governments. Some are data teams, but many are researchers, policy analysts or service administrators. In most cases, the resources and attention for open governance won't reach these teams, and data isn't the core mandate. The potential

⁷⁷ Treasury Board of Canada Secretariat. 2015. Open Government Action Plan Consultation Data.

⁷⁸ Treasury Board of Canada Secretariat. 2017. Open Government Consultation Data: Canada's Third Biennial Plan to the Open Government Partnership (2016-18).

⁷⁹ World Wide Web Foundation. 2016. [Open Data Barometer](#).

downstream benefits of standardization, openness and application programming interfaces (APIs) don't help those teams do their jobs. The link between public good and accountability is broken.

Here's a common example: developers in particular (as opposed to academics and researchers) are looking for real-time data from governments such as GPS-enabled public transit tracking apps. They're likely to want data to be available through APIs. APIs are sets of instructions for how two pieces of software talk to each other. Think about your phone and how your camera app can share photos through every mail, text or social app you have, and how they know when new compatible apps are added.

Here's the governance challenge: There's no reason to have an API developer on upwards of 95 percent of the teams who are feeding data into open data portals, just as there's no reason to have data analysts working on standards and quality. This leaves a handful of options:

- Accept this and just release point-in-time, raw data.
- Hire consultants to do foundational data work.
- Provide a common resource to teams in government who need foundational data work.

I'd advocate for the third option, but governments – particularly those based on the Westminster system of government – are typically reluctant to spend money where it doesn't neatly fit into accountability for a single mandate. This is, fortunately, changing. It needs to.

INNOVATION IS INFORMATION

I've heard the term "innovation" used to refer to crowdsourcing and challenge prizes, deep dives into technological and social trends, improvements to government services, behavioural economics, and much more.

But within that nebulous concept, I think there's a central core to the innovation concept that may be a useful way to think about how we gather and understand evidence, and how we make and implement decisions. It's all about information. It's a blanket term for a number of strategies governments are using to answer the fundamental problem expressed throughout this report: that there is too much information, too much relevant context, and too many competing interests for government to manage by themselves from office buildings. The problem is that there's also too many potential solutions to that problem for governments to understand and deploy appropriately.

Nichification (again)

To back up slightly, let's consider another arc of innovation that is both an analogy and a predecessor: that of telecommunications. We've gone from letter-writing to printing presses, telegraphs, telephones, the internet and now to low-cost, ubiquitous mobile connections. Every combination of one-to-one, one-to-a-select-few, one-to-many, public forums, with every combination of attributed or anonymous, for every combination of formats, all at a vanishingly small cost.

At one point, to communicate long-distance you had one option: handwriting a letter. Later, you had two: handwriting a letter, or paying to have something reproduced many times on a printing press. You didn't have to rely on a letter when it wasn't the best option. As more and more options became available, you could match your communications goal more precisely to different ways to achieve it.

Likewise, now we have a wider range of policy development approaches and policy instruments, which means there's a greater chance that we can match the right approach to the right situation. We have a wider range of options partially because we get inventive over time, but far more so because policy development and implementation often is communication and so we're simply piggybacking on telecommunications advances.

The information

It seems simple: Yes, the internet opens up options for how government does things. But, if we start to think of policy innovation as communication, instead of as enabled by communication, it starts to shed light on what we're really trying to accomplish, and where innovative approaches fit into more traditional approaches.

Basically, the approaches that get pegged as "innovation" often boil down to two key actions:

1. transferring information between people
2. arranging information for people

These are the crux of crowdsourcing, policy or service jams, innovation labs, open data, design thinking, challenge prizes, and citizen engagement approaches like consultations, townhalls and social media chats. Someone has information that policymakers can use: ideas, problems, slogans, lived experience or academic expertise. The next task is to find the best way to access that information, which is a question of format. You just have to learn the formats. Similarly, once you've crossed the threshold and learned a new telecommunications approach (a case in point might be parents and grandparents embracing Facebook), it becomes part of a passive mental algorithm that takes a need or goal and instantly knows how best to accomplish it.

Talk of policy innovation tends to go hand-in-hand with the idea that policy issues increasingly cross jurisdictional or societal boundaries, and are a part of an increasingly complex environment. This is where arranging information becomes invaluable.

Let's say you get 10 informed stakeholders of a given policy question in a room and ask each for their concerns. They each reveal a different way of looking at the issue, revealing its complexity and pointing out legitimate pitfalls for policy options. The problem is that by the time the tenth stakeholder spoke you forgot the concerns of the first five, so it's impossible to understand all 10 in context. It's Miller's Law: Human beings can only hold seven things, plus or minus two, in our working memory (more recently research says it's more like four things). Which is where techniques like journey mapping, system mapping, and sticky noting everything are crucial for policy. They're the policy landscape equivalent of doing long division on paper so you can remember everything in play – what we might call "mental scaffolding".

Many approaches include both transferring and arranging information. For instance, a public consultation might include a call for ideas with a voting mechanism that creates a ranking, signaling importance. Some deliberation platforms include argument-mapping systems that use algorithms to arrange the discussions for participants – almost like Amazon bringing complementary products to the forefront. ("Are you outraged at your government about X? Many people outraged about X are also outraged about Y, perhaps you should consider lambasting them on that topic too.")

In other cases, governments can (and should) map out what they already know about a given policy issue to get it out of working memory and focus on change drivers and relationships between forces. This will become increasingly important if we truly want to get out of siloed policymaking, find hard-to-see connections between once-distinct policy areas and genuinely understand entire systems. Our governance model was built for a world we falsely believed was

simpler than it was, and within that we're running into our own cognitive limits. We literally cannot hold all the elements of a complex policy issue in our heads without some kind of mental scaffolding, be it tools, other people or paper.

SOME COMMON APPROACHES TO INNOVATION

We shouldn't slip into mental models that restrict ourselves to an established catalog of what constitutes innovation. However, it's useful to consider the toolkit that public sector organizations are often drawing from in efforts to learn from the ecosystems of content and context experts. Some of these are focused on inputs, some on outputs – that is, how we approach decisions about what to do, versus what government actually does:

1. **“Open” approaches** – citizen and stakeholder engagement in service and policy design. This can be online deliberation, argument mapping, citizen's panels, facilitated sessions, roundtables or dozens of other methods.
2. **Foresight** – systematic exploration of a range of plausible futures for a field, technology or policy area, often used in environmental scanning.
3. **Participatory budgeting** – overlaps with citizen engagement, but actually sets aside portions of government budgets for the citizens to decide on. Usually comes with a lot of work to create a fair and inclusive process, including web platforms to help people explore, debate and vote on options, and to consider trade-offs and competing views.
4. **Crowdsourcing** – overlaps with citizen engagement, but let's think of crowdsourcing as aiming for light inputs (ideas, concerns, suggestions, edits, votes) from many people.
5. **Citizen science** – creating platforms (toolkits, web platforms, games, physical infrastructure) that allow citizen inputs to government data collection: e.g. water and pH levels, photographs from standardized perspectives, star field mapping, protein folding.
6. **Open data** – releasing data created and collected by government to allow for third-party uses, such as social, economic and academic research; platforms for access to government services and data; business intelligence, etc.
7. **Hackathons** – collaborative problem-solving sessions, typically with technological solutions (but not always), that bring people together to define a problem then prototype and test minimally viable solutions, usually within 48 hours.
8. **Behavioural insights** – generating and testing hypotheses from the behavioural psychology and behavioural economics literature to examine and optimize citizens' interactions with governments (e.g. different language on letters from tax organizations leads to different response rates and

times). This is often paired with A/B testing two products/approaches to get authoritative data on which worked better.

9. **Impact-based delivery models** – can be partnership models, procurement, grants and contributions or other funding models. Governments are increasingly exploring ways to get away from defining strict requirements for contracts, partnerships or products up front and instead dispensing funds based on measurable impact with the approach left up to the third party, e.g. the UK *Social Value Act*, social finance, pay-for-performance or many public-private partnership governance models.
10. **Challenge prizes** – posting monetary prizes for hard-to-solve problems that can be attempted by any individual or group. Groups attempt to solve problems on their own volition, with no promise of financial compensation. Often looking for technological or research proofs-of-concept, which governments can then purchase or pursue. Challenge.gov and the X-prize are the common examples.
11. **Gamification** – applying game playing concepts (points, leaderboards, rewards, etc.) to encourage engagement with a product, service or to drive an intended behavior. This helped the City of Stockholm reduce traffic speed by 22 percent. They set up a speed lottery wherein the individuals fined redistributed part of their losses to those who obeyed the speed limit.
12. **Digital government** – transforming the efficiency and effectiveness of business and policy outcomes by fully leveraging the changes and opportunities offered by digital technologies.

To add to that list, for any private sector leap forward or emerging technology, there's always someone waiting to say, "How might we use [artificial intelligence/big data/data analytics/platform models/driverless cars/virtual reality/quantum computing] in government?" It's worth musing about, but will be worthwhile only when that thinking happens to connect with a genuine problem – in a real-world program, policy or service area – that needs solving.

Which means that none of the above approaches can be used in a vacuum; they need a connection to mandates and the people who can understand and implement them. It's tempting to think that any of the above might be the perfect approach in a given situation but, unless the problem owner can and should deliver on it, it isn't. Governments exist to deliver on mandates from elected officials, not to innovate. Many of the listed approaches are, in essence, just different ways to gain information and insight into stakeholders' needs – that is, they can be routes to better problem definition and to understand and work with complex systems. One tailored set of tools for precisely that goal is design thinking.

DESIGN THINKING

If you solve for design thinking, you often end up solving many of the common pitfalls for problem solving. Design thinking a structured process that helps organizations work through the problem definition, their own capacity, and the right approach – which might be innovative or might be boring.

These five steps are at the core of design thinking:

1. **Empathize** – Understand stakeholders and their needs, mindsets, challenges and attitudes. Common techniques include interviews, observing people interacting with services, or group dialogue models. People can't comprehend how powerful this is – and how much they were assuming – until they actually do this themselves.
2. **Define** – Based on the learnings from above, and often directly involving stakeholders with diverse perspectives, the goal is to generally agree on a comprehensive problem statement.
3. **Ideate** – Generate ideas for how to solve the problem. Allowing different stakeholders into this process, having different perspectives mix, and using facilitation techniques to create space for creative thinking are all proven to generate more novel ideas than simply asking.
4. **Prototype** – Make anything (e.g. paper mock-ups of service interactions, lego buildings, rough websites, draft policies) that people can touch, explore and react to. The act of building will help problem owners and idea generators understand how something will look, feel and work in practice.
5. **Testing** – Ideas from the prototype stage will invariably be laden with assumptions and, when users – real, honest-to-goodness end users – start interacting with even a rough working product, assumptions will be revealed, which will create opportunities to correct them. A sample size of five testers will reveal most of the critical failure points in, for example, a web interaction.

Design is also a discipline to practice, not a skill or an easily replicable set of steps. It's one of the core skills that serves as an antidote to the complexity problem woven throughout this report. It's also one of the skills that governments struggle to deploy for accountability reasons.

ORGANIZATIONAL MODELS AND STRATEGIES

It's very different to talk about innovation in a localized, contextualized way (e.g. within a policy/program/service unit) and in an organizational, cross-government way. Individual units will innovate constantly, and the efforts may never bubble up to the government-wide radar. In many cases, the change won't be called "innovative" – it will be born out of incremental change, financial pressures, or an opportunity to simply improve the program and it will just get called "better."

The classic piece on innovation in the private sector, *The Ambidextrous Organization*, found significant differences in success rates depending on where "innovation units" were positioned within the organizational structure. Put simply, wrong design and governance decisions can nearly guarantee failure.

However, organizational-level strategies can support individual, contextualized innovations in a few ways, including:

- identifying and removing barriers
- creating space for experimentation
- providing training, tools and resources

Identifying and removing barriers

Get used to the idea of problem DNA. Every barrier and obstacle isn't a homogenous element, it's a unique combination of policy, risk, culture, understanding, time constraints, opportunity costs, process, communications and other building blocks. Solving for one element rarely solves the problem.

Let's return to the idea that, with new options for policy development and implementation, there's a greater chance to match the right approach to the right situation. However, rules, policies and processes were often designed before these options became available, so there are often barriers to their use, including hiring, mobility, contracting, procurement and training. Creating flexibilities or exception processes in these systems is the blanket, one-size-fits-all approach to freeing up space to innovate. However, systematically taking steps to understand, and adjust for, the impact of these forces on how employees work is more effective – albeit more time-consuming and it requires more management commitment.

Creating space for experimentation

An increasingly common approach is to create innovation labs, which are theoretically safe spaces that can bring people together to define problems and experiment with solutions.

For a proper, peer-reviewed definition:

“An innovation lab is a semi-autonomous organization that engages diverse participants – on a long-term basis – in open collaboration for the purpose of creating, elaborating, and prototyping radical solutions to pre-identified systemic challenges.”

Source: Innovation Labs: Leveraging Openness for Radical Innovation?

Innovation labs can exist within organizations, at arms-length or purely external as partners. They tend to be centres of expertise for design thinking, prototyping, facilitation and other useful process skills. The point is not that they are full of smart people (though they tend to be); the point is that they are full of people with toolkits for organizational learning and for helping groups of people reveal and explore their collective wisdom and knowledge.

In this way, innovation labs tend also to be a part of the digital government and open government ecosystems. For the former, they're a platform through which to conduct user research, testing and

prototyping. For the latter, they become a space for government officials and external stakeholders and experts to work together in a neutral, safe-ish environment.

Labs tend to partner with business units once a need for change or exploration is identified. They essentially act as a combination host, consultant and partner for a policy/program/service development, implementation or evaluation journey.

In governments, labs tend to have direct access to senior executives to help create staffing, spending, and governance exemptions to allow for more agile, free-flowing operations. This is important, as partnerships and collaboration within and outside the organization tend to define such labs.

NESTA has an innovation lab, MindLab is one of the longest-standing examples, and the MaRS Solutions Lab in Toronto is the frontrunner Canadian example. (There are many others, in and out of government, such as Alberta's CoLab, New Brunswick's NouLAB.)

Anecdotally, working with external labs (i.e. those outside of government) appears more likely to allow for the expertise, safe space and transparency required. Expect that work with such labs will take a lot of time. The good news is it's the appropriate amount of time for meaningful change, and the simpler solutions you would have arrived at through a half-hearted exploration would be incomplete, misleading and ultimately less effective.

Providing training, tools and resources

Organization-wide strategies can also take steps to ensure the on-demand availability of training (e.g. on citizen engagement, facilitation or data science), resources (including people and money), or expertise and advice.

Many skills central to the common toolkit of approaches are disciplines in and of themselves. They're too specialized to fit into many permanent teams, and they're called on at irregular intervals. For such skills, governments are creating centres of expertise to house permanent specialist staff who act as common resources to the rest of government. These include public engagement offices or behavioural insights units. They might operate on cost recovery or as free resources but with criteria for choosing the most high-impact projects. If such specialists are creating value above and beyond their cost, capacity can be added over time (e.g. the UK Nudge unit). This is a common theme between digital government, technologists, open government and the innovation community.

Communities of practice are also useful for building the capacity for skills for which external professional networks are few and far between. These are, essentially, miniature professional associations within organizations that share expertise not only about a domain, but also how to work in that domain in the

organization's unique culture and constraints. Ideally, managing these communities should be part of someone's job, if not their full-time job. It creates connective tissue between experiments and pockets of knowledge scattered across organizations, which is particularly important for evolving, emerging fields of practice.

On levers

What levers for change are available to support innovation? It's helpful to think through two lenses:

1. What's the best we can possibly do, given our current parameters?
2. What possibilities would be available with certain strategic structural changes?

Levers for change may include:

- laws, policies, and regulations
- performance management frameworks
- executive/political commitment and champions
- internal and external communications
- training
- toolkits and resources
- hiring (or alternative models like short-term tours, fellowships, exchanges)
- procurement
- contracting organizational design, including the labs and hubs from above
- changes to processes (e.g. mandatory fields in spending proposals)
- common-use programs (e.g. centrally-led open data portals, citizen engagement tools, challenge prize platforms, web platforms that any department can use)

THE STATE OF THE PRACTICE

The responses from those I interviewed lined up nearly perfectly with the Organization for Economic Cooperation and Development’s review of government innovation in Canada. There’s a lot of enthusiasm for innovation, but few structural and systematic supports. The skills required for a pivot to more user-centric, experimental approaches to governance are hard to find, and it’s hard to find permanent homes for those skills in governments without job descriptions and salary bands that match.

Note that there are two layers of skills required: one is the level of light awareness, particularly among managers and senior executives, where they have a baseline understanding of this broader suite of approaches to governance and problem solving. The goal there is not to turn everyone into experts, but to have people know when to seek what expertise, challenge bids from vendors and measure success. The second is that layer of deep expertise, and making sure that it’s available on demand to teams in government that need it. In many cases this will require work on the supply side as well; the workforce availability simply isn’t there for many skills that government needs and often has a competitive disadvantage in attracting. UX/human centered design, behavioural insights and data science come quickly to mind as example.

Many of the success stories were the result of a “pocket of awesomeness,” a term I heard a few times. That is, innovation happened when one team or one person decided that government needed a particular resource, program or platform, and made it happen. Almost invariably, these programs contained the features of the digital world – open, horizontal and contextual – to span government organizations or extend outward into the sphere of citizens, the private sector, academia or civil society. However, all of this comes with fragility: I heard equally often that the departure of a single person could derail an initiative. Or that, eventually, the accountability structures of government stiffened up again, destroying the value of open and horizontal approaches by forcing work back into vertical structures.

“ ... the way the system works in practice, it’s all very vertical. There’s just no incentive for real shared objectives ... it’s really hard. Really hard.”

“If you don’t recognize the underlying behavioural traits of the system, and its impact over time, then you end up comforting yourself in innovation by anecdote, and not coming to terms with the structural impediments.”⁸⁰

Governments need to ask themselves: What needs to be true to support emerging approaches to governance and policymaking? I’d propose that governments need to:

- have a better understanding of changing practices

⁸⁰ OECD. 2017. Canada public service innovation review, p. 44.

- update analog-era laws and policies (and interpretations and processes) that nudge practitioners towards old models by making them relatively easier to pursue
- hire and contract specialists reliably, quickly and effectively
- move specialized skills around within government more easily
- support the supply side of the equation and work with the external talent pool for essential skills

To make the case for any more investment in those directions, however, we first and foremost need a more thorough accounting of the costs and missed opportunities of the *status quo*, and more direct experience and line-of-sight between governance decisions and front-line delivery and policy work.

THE STACK AND THE GAP

At this point in our discussion, we begin arcing towards a conclusion, starting with what I'd view as an ideal future state for governance in the digital age:

Over the course of a policy cycle, government organizations create a range of avenues for stakeholders to express concerns, add insights or review existing plans. Organizations have a solid sense of their stakeholders and design effective engagement opportunities. The arc feels collaborative, without overwhelming or creating a burden on interested parties.

Throughout the policy cycle, the engagement might alternate among one-on-one meetings, small groups, stakeholder roundtables and broad crowdsourcing for ideas.

Depending on the nature of the problem, this back-and-forth between government and stakeholders might include ethnographic research, expert analysis and commentary, idea generation or deliberation about options and tradeoffs. Government reliably chooses the right format for the question and the audience.

All of this happens in government now, though often *ad hoc* and without a sufficient standard of quality, expertise and diligence. We can also add some specificity and ambition to that future state:

1. The engagement is professionally designed and facilitated by experts who can draw on hundreds of formats, and who are experienced at breaking complex problems into manageable tasks. The communications surrounding the policy cycle are written with empathy in plain language, and the digital interfaces required to participate are designed based on user research and are tested. There are alternative options for those with limited access to digital tools or who prefer analog channels.
2. Particularly when a policy question is about emerging change or uncertain futures, or where a solution requires action both in and outside government, the policy cycle involves foresight techniques and scenario planning – in other words, working through a process to identify plausible

futures, and thinking through what each would require and what events would indicate that each is emerging.

3. Foresight is embedded in strategic planning and policy development, and senior executives are actively engaged.
4. Stakeholders are involved as well in imagining these plausible futures, expressing their views on the benefits and tradeoffs of each and determining their roles and commitments.
5. Technologists and service design teams are engaged from the beginning to ensure that assumptions about technology, policy instrument options and user needs are not baked into policy questions or decisions – for instance, if eligibility for a government program were based on a digital identity system that was waning, or if real-time policy evaluation and adjustment was ruled out because the policy teams didn't know that technology has advanced to allow those options.
6. Throughout all of the above, the data that governments hold on the policy issue are publicly available, including administrative data about existing programs and services. Communications and web content about the policy question simply link to the datasets, but the context is also available – what government analysts think the data means, what it has been used for and how it was collected.
7. The government policy analysts are experts in this field. They're up to date on emerging challenges and trends and familiar with their stakeholder communities – and not just the people and organizations who are easy to find. They share learning amongst interrelated teams in structured ways, and the organizations evolve to reflect that learning. Stakeholders know both how they can influence the decision and the limits to that influence. The roles that public servants and elected officials play is seen as a legitimate expression of the public good.
8. Lastly, the evaluation part of the policy cycle is pulled back and through the rest of the cycle. Governments work with stakeholders and experts to create or synthesize available evidence about the success of policy interventions, and the results are both publicly dashboarded as data and expertly reviewed in context. The analysis includes the level of confidence in the available evidence. In some cases, this would be full-scale experiments, with different populations testing different approaches, and in others it would be based on a strong cause-effect case. In more and more cases, the evaluation would begin the moment the policy intervention launches. For instance, if a tax credit were designed for a particular population, government could get a sense within a day as to whether their communications approach had reached the right people by collecting real-time data on sign-ups.

These governance approaches would more reliably get governments through unpredictable change, whether it's emerging technology, societal trends or the wicked problems that have gone unaddressed.

THE STACK

This report has been an attempt at problem definition. What kind of world are governments operating in? Why do systemic problems and shortcomings linger? Where and how are the structures of governments set up to fail at generating the best public outcomes?

In short, the case is this:

We tend to underestimate problems and the trade-offs and costs involved with pursuing any given solution. This is true for public policy issues, operational decisions and the meta level about how government works. In short, governments' capacities to understand and manage complex systems have not scaled with governments' mandates.

The question is not about how government deals with any particular issue; it's about how to change government such that it reliably and systematically has a better chance of success with any unpredictable future issue.

In the section on the nature of technology, and why that is so difficult for government to get a handle on, we explored the concept of "stacking" – how there is no "solution," but rather a set of complementary, interoperable technologies that get mixed and matched to suit different and changing contexts. The approaches described in the ideal state, above, could be considered a governance stack.

This is not the solution for every public decision or program. Where government works well, there is no need to overhaul approaches. This stack comes into play for the sorts of problems government has long been struggling with: problems that are boundary-less, that have many stakeholders with competing values, that change rapidly, and that are characterized by emergence and uncertainty.

The set of approaches for managing this complexity includes, but is not limited to:

- evidence-based decision making
- transparency and openness
- systems, or process skills
- public good ethos
- subject matter expertise

Each is a loaded term. This section will cover how this stack addresses governments' systemic challenges, why each approach requires the others, and why each approach is limited by current structures.

Much of what follows mirrors the prescription offered by Rosell's *Renewing Governance* in 1999, centred in the concept of a learning organization. The term was popularized by systems scientist Peter Senge, now at

the MIT Sloan School of Management, to describe an organization that emphasizes distributed learning among employees and that is constantly in transformation to work within a changing environment.

Rosell's is still the right prescription. I'll offer a different take on the concepts and how they work together, and outline why this governance approach hasn't yet taken hold.

Evidence-based decision making

As noted, many government policies and programs are exemplars of the concept of evidence-based decision making. This type of decision making is limited when we get into complex challenges. The Global Delivery Initiative of the World Bank diagnosed the problem:

“A key reason why these gaps endure between policy aspiration and performance reality is that the bureaucratic systems for delivery – and the corresponding incentives they generate – are very well suited to address certain types of problems and very poorly suited to address others. In short, they excel at addressing logistical and technical problems, that is, those that can be standardized (reduced to a best practice) or resolved by “10 smart people” (whether to raise/lower interest rates), but they struggle to respond to adaptive problems, that is, those that require ongoing human interaction (teaching or health care) and discretionary responses to inherently ambiguous, context-specific problems (such as reconciling competing land ownership claims, ensuring law enforcement, or providing agricultural extension services in remote areas).”⁸¹

So if you were wondering why elements of the digital orthodoxy such as “user-centric” didn't appear in the stack, it's because they span categories. User-centric approaches epitomize evidence, but they do so leaning on open approaches – first-hand research built on empathy and personal insights, and creating avenues for course correction and surprises by engaging with expert communities (e.g. via open source communities).

It's worth expanding on the term “empathy”. Government policy is supposed to be based on hard-nosed rigour combined with sources of public sentiment and stories (often stemming from public polling or legislators' constituency work). A burgeoning awareness of user research for government services and behavioural economics is cementing the idea that feelings are facts. How the public will respond, how people react to a service design or how people feel about the language in letters requesting tax payment all influence the success and failure of a program.

Prototyping user services is an analog to large-scale policy experiments, recognizing that the cause-effect chains will be completely understood only in hindsight – and it's hard to predict exactly how people will interact with a touchpoint with government. A pattern from this report repeats: the more data government

⁸¹ Gonzalez De Asis, M. and Woolcock, M. 2015. Operationalizing the science of delivery agenda to enhance development results. The World Bank.

has about a government program, and the more government hears the individual experiences of people interacting with that program, the clearer the externalities, limitations and remaining data gaps become. As one government senior official said, “We [often] don’t have the data, or the evidence, or the experimentation to know what impact we’re having.”

In the U.K., the government has responded to this reality by investing in a network of evidence institutions called What Works Centres. The goal is to create reputable, non-partisan centres of expertise that serve as a bridge between the available evidence on a policy issue and policymakers and practitioners. Having these institutions sit outside governments has a few advantages: it de-politicizes evidence (and guarantees openness), it facilitates inter-jurisdictional policy work and it allows organizations to hire for specialized skills that governments require, but most teams in government do not. Chiefly, skills in What Works Centres revolve around:

- synthesizing and assessing evidence – determining the quality of research and the strength of reported cause-effect relationships
- designing evidence collection for public policy – working with governments to design policy interventions and data strategies to later determine the success and value through experiments, quasi-experiments, comparison and a range of other techniques⁸²

Social policy research organizations already exist in Canada, working with the federal and provincial governments on evidence-based policy. However, the recurring theme in interviews was that officials’ flexibility for funding such projects, particularly at the federal level, was severely restricted after the introduction of the *Federal Accountability Act* in 2006.

There are pros and cons to the U.K. approach of having this capacity outside government, and governments already have an ecosystem of audits, evaluations performance measurement frameworks to build on. However, the aforementioned advantage of facilitating a centre of specialized skills is a constant throughout this stack, and will be addressed shortly.

Transparency and openness

Let’s imagine that you work for a department of transport responsible for a rural area. Based on the level of traffic, the speed limit and the type of road, the data might suggest that an intersection be turned from a three-way stop into a yield. But any long-time resident could tell you that, actually, every second year the wind piles up the snow so high that it would become a blind corner for a couple months.

⁸² Cave, J., Aitken, K. and Lalonde, L. 2017. Bridging the Gap. Mowat Centre.

This is the sort of story that data is terrible at telling if you're not collecting data precisely for that story. It's hard to divine from an office in a federal, provincial or territorial capital. But the people living there all know it. They are context experts.

The challenge is about how to create mechanisms that either actively collect this context or passively allow it to surface and be incorporated into data and decisions.

We often talk about open government as a goal in and of itself. But citizen and stakeholder engagement, transparency, and open data and information also serve the goal of managing complex issues and lead to better public decisions.

The purpose of transparency and open data, as discussed previously, is there may be multiple benefits for different people, and making things upon maximizes this potential. In this context, we'll highlight a few more precise benefits of open data:

1. Stakeholders can review the data that government is working with to analyze it in different ways, identify data collection issues and highlight missing pieces.
2. It's a foundation to any engagement activity. Even if government is asking specific questions, the most engaged stakeholders should be able to review the baseline and background.
3. It supports the evidence ecosystem. Governments are biased towards the *status quo*. Publishing data about policy issues – which means, directly or indirectly, data about the success of current programs and services designed to address those issues – removes some risk of action and transfers it, appropriately, to the *status quo*. It also amplifies the credibility of successful government interventions. That is, it's much harder to cherry-pick data, but also much harder to claim that anyone is doing so.
4. It supports the emergence of solutions from actors other than the government. For instance, an NGO focused on reducing homelessness can benefit from the effort government has put into studying and defining the problem, and take more effective steps to deliver their complementary mandate.

Designing for some degree of openness creates opportunities for governments to better define problems and generate more creative solutions. At the very least, having a more-or-less passive intake route for stakeholder feedback, ideas and comments can help governments steer away from massive pitfalls. This is the crux of the system, in place since 1986, of posting draft regulatory changes for comment. That should continue to be the bare minimum, but it hinges on certain assumptions, including the presence of motivated experts who can understand the nature of proposed changes and suggest improvements. When government gets into, for instance, interrelated social policy issues where the disagreement is as much about values as it is about facts, this approach doesn't hold up.

Process skills are a foundation to addressing this deficiency.

Systems, or process skills

Peter Senge described learning organizations as those “where people are continually learning how to learn together,” made up of five components:

1. systems thinking
2. personal mastery
3. mental models
4. shared vision
5. team learning

Note that there are natural connections in this five-point list to other elements of the stack. Shared vision is increasingly required outside traditional organizational lines (i.e. silos) and therefore blends into public and stakeholder engagement; scenario-planning techniques need to be added to engagement for people to understand, and consider legitimate, potential future states. Personal mastery is required to execute on the public good ethos component.

Rather than work through each of Senge’s components, let’s focus on the core thread: these are all process-heavy activities. Not in the disparaging, frustrating sense of the word process, but as helpful and necessary structure.

This gets us back to the idea of mental scaffolding and the need to arrange information and create shared mental models to even begin to work together on complex issues.

Learning organization practitioners lean heavily on facilitator and foresight toolkits to deploy the right kind of scaffolding into their organizations’ needs. These show up as foresight exercises in strategic planning, knowledge mobilization or communities of practice.

Anyone can, “facilitate” a discussion in the colloquial sense of the word. They will usually improve the conversation by keeping an eye on people who are dominating the conversation, asking probing questions and nudging the topic along when it gets stuck. It is very different, however, to work with a trained facilitator whose work starts weeks or months before the meeting. Their job is to design a session to get the absolute most insight out of people in the minimum time possible.

Returning to our problem statement of rapid change – boundary-less problems and endless complexity – the value of learning organization practices are clear.

The public policy issues that remain unsolved all expand quickly past the limits of our working memory as captured in Miller’s Law. Systems thinking, organizational learning and facilitation are how organizations can capture and understand the elements of a policy system, allowing analysts to focus on the dynamics and

potential impacts. And how organizations can constantly adjust and incorporate both new knowledge and rapid change into policy options.

It's not just about being open to the views of different stakeholders; it's also about being intentional and purposeful about asking the right questions.

The federal Policy Horizons organization, for instance, uses many group learning and system mapping techniques to explore plausible futures. In the lead-up to their 2014 Metascan report on emerging technologies,⁸³ they mapped the system of goods and services: international trade, border agencies, different transportation mediums, the legal and regulatory environment, smuggling and other organized crime. It is, definitively, a group learning exercise; it requires the experience, knowledge and creativity of many people with diverse backgrounds to generate these maps. Once the map was generated, Policy Horizons considered the impacts of certain emerging technologies within the context of that system. People can't easily bring guns into Canada, nor can they easily buy them. But they can buy a 3D printer for \$800 at Home Depot, download open source plans for plastic guns that have been available since 2012, and print a gun. How does or should that change our border control system? Our laws and regulations? Our travel requirements?

Policy Horizons is not about predictions; it is about plausibility. In this case, the point is that governments can consider different possibilities, identify the high-potential and high-risk ones, and monitor and govern accordingly. In this case, 3D-printed guns haven't tracked towards the worst-case scenario futures.

There are layers of challenges for governing technology, plus meta-challenges: How do you govern or regulate something you don't understand? How do you know whether you need to spend resources to understand it? How do you know what capacity you'd need to do that? And it's becoming more challenging.

“During the early stages of the development of a technology, when it can be controlled, not enough can be known about its social consequences to warrant controlling it; but by the time these consequences are apparent, control has become costly and slow.”

That's the University of Ottawa's Dr. Mark Saner's take:⁸⁴ that the speed of technological progress means the window of opportunity for government to intervene proactively is narrowing or becoming non-existent.

A renewed commitment to distributed organizational learning is more important than ever, given what we now know about our governance environment. However, the more important point about organizational learning and foresight is that it can't be done in a vacuum. Organizations can't practice foresight then report to senior leadership with the results. People have to see themselves in and internalize futures that are, by

⁸³ Policy Horizons Canada. 2014. MetaScan 3: Emerging Technologies.

⁸⁴ Saner, M. 2014. Regulation of Emerging Technologies at the Interface of Evidence, Values and Culture.

their nature, hard to imagine. Foresight, beyond a shadow of a doubt, must be part of the strategic planning processes that drive an organization.

THE PUBLIC GOOD ETHOS

The *Values and Ethics Code for the Public Sector* lays out the roles of public servants and ministers:

“Federal public servants have a fundamental role to play in serving Canadians, their communities and the public interest under the direction of the elected government and in accordance with the law. As professionals whose work is essential to Canada’s well-being and the enduring strength of the Canadian democracy, public servants uphold the public trust.

Ministers are also responsible for preserving public trust and confidence in the integrity of public sector organizations and for upholding the tradition and practice of a professional non-partisan federal public sector. Furthermore, ministers play a critical role in supporting public servants’ responsibility to provide professional and frank advice.”⁸⁵

The arrangement is to be driven by five values: respect for democracy, respect for people, integrity, stewardship and excellence.

I am summing up those values with the term “public good ethos.” In a world where “everyone with a smartphone is a policy analyst,” where ubiquitous instant communications exist, and where there is a marketplace of ideas, governments have options for policy analysis and advice. There is a unique and irreplaceable role for public sector policy analysts, which is to hold up the lens of the public good ethos – analyzing and considering trade-offs between competing values, and making policy options “decideable” for legislators.

The modern governance environment puts pressure on this role.

In a static, slow-changing world, ethos can be embedded in policy and process. For example, government procurement officials can follow a strict rulebook to ensure fairness in purchasing; government can decide once, after much debate and much due diligence, how that should work and encode it for a decade or more.

But “static, slow-changing” does not describe the world that we live in.

In a dynamic, ever-changing world, government officials need to understand the public good ethos – and how government is supposed to work – at a much deeper level. They need to understand the principles, not just the rules, because they need to constantly apply that ethos to new contexts, communications channels,

⁸⁵ Government of Canada. 2011. [Values and Ethics Code for the Public Sector](#).

technologies and types of decisions. There will rarely be a guide or a process for this, or where such exists it'll be years behind.

This applies to both permanent public servants and elected officials, and I don't think they're being set up to succeed. Governments hide their rationale for decisions behind the boilerplate phrase, "The government is committed to X." Instructions flow through hierarchies much more easily than principles, tradeoffs and considerations for decisions.

The content expertise is often disconnected from the context expertise. We've seen, in multiple jurisdictions, what could be called "instrument constituencies" – communities interested in a technology or way of working whose interest well outpaces their management's ability to contextualize the instrument in the organization's' mandate and environment. Social media and innovation labs both followed this pattern.

Discussions about values and ethics happen when employees are hired, and then not again until a catastrophe occurs. Otherwise, employees are left to piece together their own concept of the principles on which government works based on the events they happen to be part of and the reactions of those around them. This is not unique to the public service; one of the most striking themes of Samara's exit interviews with former federal legislators is the astonishing range of concepts of what their jobs actually were (e.g. the correct balance of representing constituents, representing the government, committee work and acting as an ombudsman for public services).⁸⁶

Lastly, it is impossible to appropriately apply a public good ethos to a new or changing context without fully understanding that context. This may involve understanding the needs and values of stakeholder communities, understanding a policy issue or, increasingly, understanding the nature of emerging technologies.

Subject matter expertise

With the "marketplace of ideas" concept, many people have suggested that government policy analysts will in time cease to be subject matter experts and instead be collectors, convenors and facilitators of the broad swath of policy knowledge that exists in the wider world.

I cannot possibly disagree more. Yes, convening will become a bigger part of the governance approach in general. But while many external actors contribute accurate information in good faith, such engagement is not guaranteed. Government needs to balance, fact-check and contextualize as stakeholders alternatively recommend that government over- and under-reacts to changes in the environment. As the stewards of the

⁸⁶ Loat, A. and MacMillan, M. 2014. Tragedy in the Commons: Former Members of Parliament Speak Out about Canada's Failing Democracy. Random House Canada.

public good ethos, it's more important than ever that government officials be informed, up-to-date and expert in their areas.

This brings us to the departure point for the analogy of a software stack, and why the above has been unreliable at best and elusive at worst.

THE DEPARTURE POINT

Here is where the stack analogy fails: there are full-stack developers, and many people seamlessly navigate the stack of communications and collaboration technologies. For this set of governance approaches, however, there is no such thing as a full-stack public administrator.

For this stack to work reliably, governments need facilitators, citizen engagement designers, user researchers and ethnographers, foresight specialists, learning practitioners, social scientists and data heads. And governments need managers and policy leads who are at least aware of these skills and functions, and know how and when to contract, hire or collaborate to use them.

Governments have some of these skills in house, but the people with these skills are busy working on their own missions and mandates. The ideal scenario for this stack is that all of those roles are, at least for periods of time when needed, directly supporting a policy team or a group of interrelated policy teams (e.g. the intersection of economic support for artificial intelligence research and development, labour market research, and the regulatory lens on AIs and algorithms).

The demand is compounded by features of scientific and technological advancement: to be at the forefront of a given field increasingly requires specialization and depth of knowledge. So while it's hard enough to organize multidisciplinary teams, on-demand collaboration is going to be increasingly necessary and involve an increasing number of specialized roles.

Lastly, the movements described throughout this report – digital government, open government and, we could add, social innovation and partnership approaches – invariably involve citizens' input. This is not a scenario where checks and balances will eventually catch weaknesses and mistakes. It's government asking people for this time, and it's live on the air. The standards for quality rightfully skyrocket.

THE LOGIC MODEL IS BROKEN

Governments have heard a litany of recommendations for how to adapt to a digital, open and changing world. Often, the logic model for implementing those recommendations is broken or non-existent.

Let's start with specialized skills as an example. When I interviewed people identified as leaders in the fields that support governance in the digital age (e.g. digital government, user experience design, data science), I heard two strains of challenges:

1. The current talent pool in government is far too shallow; there just aren't enough people to help every team that needs those skills.
2. It's particularly hard to satisfy staff in these fields; the pay scales are skewed compared to private sector, the day-to-day experience once staff arrive is discouraging, or the classifications and job descriptions simply don't exist.

Organizations have a range of techniques for capacity-building: communities of practice, in-house training (such as the U.K.'s Digital Academy), toolkits, guidelines, playbooks, one-off sessions with experts and hiring campaigns.

Each of these techniques hinges on a standard model and an assumption that people are going to occupy a box, somewhere, in some team. In actuality, the skills that government struggles with do not fit neatly into this structure. Consultants are an option, but governments also struggle mightily with contracting in these situations. Often, what governments need is a learning process to understand what skills and process they need in the first place.

A few examples:

- More government services and data should be available through application programming interfaces (API). There are thousands of teams managing services and datasets, and very few of them could possibly justify hiring someone full-time who knows how to develop and maintain APIs.
- Government should engage citizens and stakeholders more, and more effectively. Very few policy shops need citizen engagement specialists 52 weeks per year.
- Organizations should build foresight and facilitation into their strategic planning. Most don't need full-time facilitators.
- Governments should be experimenting at scale with policies and programs and proving value for money. Designing experiments is a rare skillset. (David Halpern, the head of the U.K. Behavioural Insights Unit, told us that one of the limiting factors for expanding the What Works Network was that their country was running out of people who could do that kind of work.)

- Every service manager needs user research and service design. Past the top tasks of government services – say, getting down into the 3,000th most used service – it’s unlikely that the team needs or could afford anyone with that skillset.

The same principle applies to most skills that underpin activities that get lumped under policy innovation or new policy instruments: crowdsourcing, gamification, challenge prizes and so on.

For instance, let’s take the statement “policy shops need citizen engagement capacity.”

Great: we’ve set an intention.

Past that, however, we should ask ourselves a series of questions:

- All policy shops? How many are there?
- Does that capacity exist in Canada, let alone in government?
- Do the people running those policy shops know that they need this capacity? Do they agree? Do the people who are making budget decisions for them? Is it a priority over other investments?
- Are we training people, or leaving it up to them to self-direct learning? Are enough people, in the right places, learning citizen engagement?

If citizen engagement capacity is the direction to take (I believe it should be), it’s far better and far more reliable to make a structural decision once, make an investment, and have capacity on demand to those who need it.

What about training as an option?

Training tends to be self- or manager-directed. That is, individual employees or their managers are making the bulk of the skills-building decisions for governments, which conflicts with the goal of systematic capacity building for identified gaps. Organizations offer the supply side only: developing a course or making one available.

Here’s an alternative vision: find the top 10 people in the country for these rare but valuable process skills and get them to build and deliver a week-long curriculum, make it free to organizations, and ask them to identify a cohort of participants. Afterwards, pair practitioners and create a two-way apprenticeship model where each helps the other on their projects and gets hands-on experience and discussion on techniques and rigour.

This is not far off what the Learning Organization Community of Practice (LoCoP) did in the Government of Canada: building and hosting in-depth programs for cohort after cohort on group learning, facilitation, guiding strategic planning and other skills. The limit on scaling there has been mandate; the line department where the community was born had no mandate to support government-wide learning.

A hidden undercurrent of Blueprint 2020, the Government of Canada's latest visioning and renewal initiative, was that trained facilitators (many of which were LoCoP alumni) were swamped with requests. Most were working in program and policy jobs; they had no role to support other teams' visioning and strategic planning work. Many worked out informal arrangements with their own organizations to help out others.

Facilitation and group exploration of the future was a foundation of that program. The government's capacity was both unreliable and, from a government-wide lens, an accident. Returning to the conclusion from the last section: better to make the structural decision to have capacity once than rely on everything falling into place a hundred times out of a hundred.

Governments have squared this circle reasonably effectively in the past for anything considered corporate functions. HR and finance are in some ways analogous specializations that support teams as needed. And the digital offices covered in previous sections represent a governance model that is designed to connect specialized skills to the teams that need those skills most. There will be much to gain from those teams working on the highest-impact services, but there's still the question of scale, and the question of what the long tail of government teams do in the meantime – and what the resulting citizen experience will be.

These skills represent a muddy middle, where they require far more integration with program and policy teams than do HR and finance functions. And they'll likely need to move around far more. In short: governments should embrace the digital office model for a range of skills, putting a single concerted push towards getting the right capacity in place and making it available across the organization.

The next challenge is busting the budget cycle; legislatures agree to fund outputs, not flowcharts and “if-then” statements. But scaling with demand and experience is exactly what's needed. In the meantime, spending should follow government priorities: if citizen engagement, experimentation or government-by-API are priorities, government officials will need guidance and support.

PROCESS ORIENTATION AND SKILLS

There's a theme in government human resources that creates an obstacle to specialization and expertise in government. We can call it “process orientation.”

A presenter at Civic Tech Toronto joked that they could go through a stack of job requirements for developers and guess, every single time, which was private sector and which was government.

Many government jobs specifically screen for experience that exists only in the context of government organizations. Examples might be requirements such as working with interdepartmental committees, writing Memoranda to Cabinet or Treasury Board Submissions, or working with a certain level of management. Being able to navigate those tasks is crucial for the smooth functioning of government, but it's treating government, rather than the public, as the stakeholder. There are opportunity costs to this approach – in

particular, when governments screen for government experience rather than subject matter expertise, the system becomes biased towards familiar patterns, obvious solutions and risk-aversion. This makes the approach a burden on innovation and experimentation, both of which take place at the edges of knowledge of a field.

Tech isn't, and is, a discipline

“Oh, you mean that haunted aquarium on my desk.”

-A public servant referring to their computer monitor

All governments are now digital governments. The question is how successful they are at it – and that depends on leadership.

Leah Lockhart, who works with Democratic Society Scotland, related this story:

“[E]arlier this year I heard a senior civil servant announce in a public forum that she didn't even know how to take a screenshot so surely ideas about innovative digital solutions for creating better public services would go over her head ...

... When someone in public service says, 'I don't even know how to take a screenshot' I hear, 'I am a security liability with no interest in knowing about modern ways of working.'”⁸⁷

This is not trivial. Human error – clicking phishing links, creating easily guessable passwords, etc. – is one of the biggest information security risks in a world where “[t]housands of attacks target Canadian businesses, governments and individuals, costing \$3 billion in economic losses each year...”⁸⁸

Lockhart argues that excuses such as “I don't even know how to take a screenshot” are no longer acceptable, given how technology-dependent our modern workplaces, relationships and missions have become.

The question is: How do we ensure that public servants and elected officials have an acceptable baseline of technological comfort and understanding? (While making sure that enforcing such a baseline doesn't exacerbate existing biases and representation issues in public bodies.)

The answer for the Department of Work and Pensions in the UK was to create a Digital Academy. Their goal was to rotate employees through six-week camps each year. And not just technologists; they recognized the need to train policy, leadership and support personnel too. After a pilot period, the Government of the UK opted to scale the model in 2017 and make it available across the public sector.

⁸⁷ Lockhart, L. 2017. [‘I don't know how to use a computer!': the stories of our most dangerous public servants.](#)

⁸⁸ Public Policy Forum. 2017. [Securing Canada's cyberspace.](#)

Yet, that's still a limited model. For many public servants, especially senior executives, the idea of taking more than two days off for training is anathema. Meanwhile, the lightweight approaches are not sufficient. Opt-in communities of practice, *ad hoc* learning and conferences will never produce systemic change in a massive organization.

Governments have to take training far more seriously; we have to flip the logic on its head and make the idea of leaving public servants unprepared for their jobs to be anathema.

THE LONG TAIL AND THE FAULT LINE

Donald Savoie, one of Canada's most recognizable scholars about public administration, describes two public services: one above the "fault line," one below.

"The prime minister, his immediate advisers, senior ministers and senior public servants operate above the fault line ...

Below the fault line is where government is coming up short, often because the ones operating above it have no appreciation of how the machinery operates. It is also where the great majority of Canadians deal with their government ... The view among the majority of Canadians and front-line government workers, however, is that government should be 90 percent delivering services efficiently and 10 percent ideas. Canadians are too often left waiting, for an hour or so, to talk to someone after calling a 1-800 number, days to get a phone call returned or weeks to get an answer to what they regard as a straightforward question."⁸⁹

Senior government officials have massive, urgent, important concerns to worry about on a daily basis. They prioritize issues, and receive updates and briefings about issues at the top of the list. As one senior executive said, "Long-term planning ... much of my job is keeping the lids on the pots. A good day is if there's no issue that blows up in my face and I have to spend the balance of the day briefing the minister."⁹⁰

A corollary of that prioritization is that there's a list of issues that ministers are not receiving updates and briefings about. An extension of that prioritization is that even if a program is a priority, the quality of the citizen interface – which thousands of people might experience daily – may not be anyone's priority.

For internal examples, one analyst told me a story about their executives being shocked to learn that some public servants had to travel to a hub city annually to fill out internal paperwork because the web-based

⁸⁹ Savoie, D. 2015. How government went off the rails. The National Post.

⁹⁰ Public Policy Forum and Deloitte. 2011. Innovation in government: Conversations with Canada's public service leaders. Public Policy Forum.

system didn't work on their computers. A government scientist told me that he can't use some enterprise software because the internet in that office is simply too slow.

The concern as government grows and as we learn more about both the impacts and the limitations of policies and programs, is that more and more of government will stay below the fault line. The conventions that still dictate the structures of government were born (roughly, subject to debate) in 1854 in the Northcote-Trevelyan Report.⁹¹ Skipping ahead almost a century, in 1937 the entire Ottawa contingent of the External Affairs department (now Global Affairs Canada) was 11 officers. Now it's 5,890 employees. Similarly, the federal public service was 46,000 people in 1939. Today it's more than 260,000 people. The long tail of government operations has gotten longer.

One of the most common success factors heard in the year of interviews, from every jurisdiction, was the importance of "air cover" and senior executive champions for anything involving digital, open or innovation. The flipside is that for every time a senior executive manages to clear a barrier for a project, they should be wondering how every project below the fault line is faring without their support.

THOUSANDS OF EXPERIMENTS

A few years back I was part of a project where we broke all the rules. We built the right team, pulling people off their day jobs for a day a week. We used whatever tools and software we wanted, met where we wanted and had a lot of flexibility to travel and engage stakeholders. When the resulting report was presented, there at least as much positive feedback about how the team worked as about the analysis and report that we produced. We were asked to capture the approach so it could be scaled up.

Here's the rub: it couldn't, because most projects have to play by the rules. For instance, the reason we were able to build the team was that a deputy minister personally emailed people's managers and asked for them to be freed up for the project. That is the least scalable approach imaginable.

Case studies, best practices and playbooks have a vicious flaw: they usually describe the best-case scenario, usually executed by a leader in the field. The reason a firm can describe a best practice is because they have the experience and capacity to generate effective approaches; if your organization had the experience and capacity required to match that, you'd be writing the practices, not reading them.

Here's a more honest heuristic: when proposing an approach, goal or requirement for government, imagine running that experiment 1,000 times. Then imagine those experiments without senior executive or legislator intervention, playing by the system of rules as it exists. How many times will it succeed?

⁹¹ Northcote, S.H. and Trevelyan, C.E. 1854. The Northcote-Trevelyan Report. Public Administration.

BUILDING CAPACITY OUTSIDE GOVERNMENT

One of the ways to avoid the “thousands of experiments” problem is to make the institutional decision once. It’s far more reliable to make a single central investment in a needed skillset, capacity, or innovation than to hope or lightly direct teams throughout government to adopt it. As one government CIO said, “if you don’t put one person in to lead, it won’t happen. The collective, the horizontal approach, will take time.”

Digital offices are the central example in this report of institutional decision making. One provincial lead explained that their mandate was originally supposed to be consultative, but it became increasingly clear that the capacity simply wasn’t there throughout the wider organization. Or, as I have argued, that the skills needed would fit neatly into all of the teams that require them.

In Canada, and in a Westminster system, the accountability imperative pushes budgetary decisions towards well-defined workplans and outputs. For complex systems and emerging realities, this is ineffective at best and wasteful at worst; there’s no potential for agility and adaptation. So, one of the ways governments can make these decisions to invest in capacity is to support or create organizations at arm’s length or further from government.

Here are some ways that can be done.

INSTITUTES

One option that has worked well for other jurisdictions is to support, in whole or in part, mission-driven institutes that exist outside government. The UK has created a network of What Works Centres designed to synthesize evidence and help government organizations evaluate policy impacts.⁹² The U.K.’s Nudge Unit – once sitting in government – was spun out to fit this model as well, so that it can a) scale with demand and b) be more flexible in working with government partners. Centres associated with the Nudge Unit have a variety of funding models, from full endowment to fee-for-service and everything in between, including hybrids.

In Columbia, the government has worked with academia and the private sector to create Centres of Expertise for Big Data and the Internet of Things. These differ from the Government of Canadian Open Data Exchange and Toronto’s Vector Institute for Artificial Intelligence in a crucial way. The Colombian institutes are independent, but the seed money gives government (and others) project credits to spend. The institutes get to learn from projects with multiple partners, the ecosystem for an emerging field gets a hub, and the funders get on-demand support using those technologies.

⁹² Cave, J., Aitken, K. and Lalonde, L. 2017. Bridging the Gap. Mowat Centre.

Particularly in the case of What Works Centres, independence is a virtue. Collecting data on and evaluating policy impacts can be a deeply political activity, so having such bodies at arm's length from government lets them focus on their mission and insulates their work from perceptions of partisanship. Where such Centres identify successful policy interventions, or unsuccessful programs that should be sunsetted, the public benefits.

Creating independent institutes to solve capacity issues is in some ways a Band-Aid solution. The ideal would be that government has the flexibility and credibility to create such structures within the existing machinery, and to support government operations in a flexible, on-demand and non-partisan way. Yet, given that this is an aspirational state, it's worth it to consider alternatives in the meantime.

POLICY RESEARCH NETWORKS

Another recurring theme was that societal and technological changes, usually working in lockstep, were always blindsiding government. Another was that practitioners were often learning new fields from scratch, not realizing how much expertise was already out there but using different names and terminologies.

There's a story behind that governance gap, and one organization exemplifies it.

On December 23, 2009, the Canadian Policy Research Networks (CPRN) closed its doors due to a lack of funding.⁹³ Although CPRN was one of many think tanks across Canada, it fulfilled a distinct role in Canada's governance discourse.

One of the recurring issues for tracing trends and ideas for governance is that rigour and empirical evidence are elusive. For instance, is "open policymaking" on the rise? Are we just talking about it more? Are we just giving a name to something that has been happening for years? That set of questions, without conclusive answers, can be applied to most governance trends today.

This is how it was described in a research proposal to the Social Sciences and Humanities Research Council:

...[o]nly recently has a small, significant wave of public administration research in Canada started to delve into the implications of digital tools for policy development, public administration, and governance. The most comprehensive of the early work was [in 2007] ... Nothing like this study has appeared since in Canada, despite advances in digital technology and the growing interest of Canadian governments in online collaboration, open data, data analytics, social media, and distributed governance, and leading-edge expertise ..."

⁹³ Ottawa Citizen. 2009. Leading think-tank to close its doors.

Academic research and rigour, whether you follow it closely or not, provides frameworks, theories and language. For the changing nature of governance, we are missing this language. CPRN's absence is glaringly obvious; if you trace the timeline for Canadian academic literature on citizen engagement, there's a mass extinction event after 2009.

Perhaps more importantly, organizations like CPRN provide the connective tissue between researchers and practitioners. The Govmaker conference in New Brunswick, led by the New Brunswick Social Policy Research Network (NBSPRN), has been serving as Canada's national conference for discussions about open government, innovation and the changing relationship between citizens and their governments. The network that NBSPRN has built, and can convene, has become a support for the entire governance community in Canada.

Organizations like CPRN fit into the dangerous model where the costs are measurable and centralized, but the benefits are widespread and distributed. This makes it a willpower-enabled investment. Such willpower should be available, though, given the need to connect research and practice, the lack of rigour and confidence around trends and technologies, and the constant refrain that governments get blindsided by the rapidly changing world.

Rebooting CPRN is not the solution. But I must emphasize the importance of the ecosystem that exists on, and spans, the margins of government. In a world where we're trying to solve boundary-less problems, boundary-spanning organizations have an increasingly significant role to play. We're not quite there for either supporting those organizations or facilitating the relationship between them and governments. Hoping for action and investment from civil society and foundations is not a strategy.

SUMMARY AND CONCLUSION

There's a persistent orthodoxy about how the world is changing and how government should change with it. We hear words like: agile, connected, responsive, user-centric, open and innovative. And we hear that the world is increasingly complex, or the rate of technological progress is too fast for governments to keep up, so government must change.

In many cases, governments have been hearing the same recommendations for decades and only changing at the surface level – rarely at the foundations. This may be because we're misdiagnosing the problem, coming up with the wrong solutions, or failing to implement them.

This report worked through the concepts of open government, digital government, public sector innovation, and how governments are trying to manage rapidly changing technological and societal trends. It looked for common patterns and how they have played out in various contexts.

This report is not about whether governments need to engage more with citizens or across sectors. Rather, its starting point is that IF that (or anything else) is a goal, how would it succeed and how would the structures of government create challenges?

One common hypothesis is that the structures and designs of government aren't set up for digital-era governance.

It's a tempting claim to make; it explains every newsworthy misstep and every clunky service. At the same time, every government success immediately becomes invisible. Every contract and decision is open to the public eye for scrutiny. A full accounting for government decisions and operations could suggest that, on balance, our public governance is reasonably effective; Canada's civil service has been ranked as the most effective in the world.⁹⁴ We can find some stellar success stories for digital transformation and open government.

After falling under the scrutiny of a focused lens, however, the hypothesis appeared to hold up. The success stories are not the norm, and benefit from advantages that the bulk of programs and services don't have. Transformation initiatives across jurisdictions rely on a web of workarounds, fast tracks, exemptions, and executive air cover. Stories of progress followed by backslide were common; the departure of a single key official was enough to derail some programs.

This led to another common story: often, the responsible executives were unaware of the implementation challenges, if not shocked that the challenges were even possible. By definition, executives have line of sight to the programs and services that benefit from their oversight and intervention; the ones that are struggling

⁹⁴ Blavatnik School of Government. 2017. International Civil Service Effectiveness Index. University of Oxford.

because they can't get attention are, accordingly, hidden from view. The tip of the iceberg looks very different from the rest of it.

The lynchpin for governance – whether it's in the digital era or not – is responsible officials having an honest and accurate view of both the progress and the challenges so they can not only make effective program decisions, but also make effective governance decisions.

This is a problem, and it's getting worse. The more data that we have about the world, the more we realize how complex the world is. Governments have to approach problems with a more horizontal lens, more contextualized to people's needs, involving more voices. Meanwhile, technology is becoming increasingly specialized, mixing in unpredictable ways, and advances can scale across the globe rapidly.

THE CHOICES IN FRONT OF GOVERNMENTS

The defining challenge of the digital era – at least as it relates to governance – is complexity.

In reality, we operate on heuristics, best guesses and experience. We don't have the time to understand complex systems, and they're next to impossible to succinctly distill and communicate. This is the core of the problem.

To say that the world is increasingly complex is akin to saying that planets keep popping into existing and ignoring the advances in telescopes. Rather, the world was always more complex than governments could understand or manage; we just increasingly have the data, research and communications technology to know it.

Governments are responding. They are moving from a model of planning and evaluating to sensing and responding, and this trend is a common thread across many modernization initiatives.

Features of the digital world also appear as governments' stated goals: more *open* so more insight can be included in public decisions, more *contextual* for user's needs and behaviours, and more *horizontal*; neither problems nor people care how governments are organized.

Open, contextual and horizontal. These are the features of the changing environment and, likewise, the features of the initiatives government is responding with. They are also, however, the features of the persistent challenges governments are facing in implementation. Thus, government needs to go precisely where it's hard to get.

Governments are machines designed to make tradeoffs and hard decisions – to aggregate citizens’ views into a democratically legitimate, if imperfect, concept of the public interest. In 1959, one public administration scholar claimed that large-scale, long-term experiments were the only practical way to govern; the world was too complex, with too many variables, to try to understand and influence. The best we can do, he concluded, is “muddle through.”⁹⁵

Government’s lack time and capacity to manage these variables – and the cost of research and coordination – challenges the benefits of better policy. But the standards are set outside government by the leaders and experts in a given field. In a data-rich world with decentralized policy expertise and transparency mechanisms, government can never be good enough. Now we have the data to know who is losing in a one-size-fits-all, large-scale policy experiment – and we rightfully deem it unfair.

So what, then, can governments do?

If the problem is to become more contextual to individuals’ needs, governments should delegate down and push decision making to the front lines. However, if the problem is horizontality and coordination between organizations, governments should make sure that information and decisions flow through central nodes.

If the problem is to understand the changing technological and societal context, governments should become facilitators and conveners. However, if the problem is to exercise stewardship of the public good, governments need to bolster policy capacity.

Put differently: there are no solutions, only choices. But there are proven and promising approaches for reliably making good choices over time in new and changing contexts. What’s missing is a logic model to turn those approaches, that intention, into a reliable system across governments.

GOVERNANCE IN THE DIGITAL AGE

Progress in digital governance is inevitable. What’s not inevitable is that we will ever get the exact progress we want, with the pace, scale and impact we want.

Governments are currently struggling with change, and it’s not going to get any easier.

We hear that government transformation – as applied to open government, digital government, public sector innovation and technological disruption – is “challenging”. But that makes it sound like we can realize deep

⁹⁵ Lindblom, C.E. 1959. The science of “muddling through”. Public administration review.

transformation with a little legwork and elbow grease. In reality, the word “challenge” drastically undersells the level of investment and commitment needed.

The existence of “challenging” problems suggests a need for policies, change management and champions. But the problems facing governments require more substantial governance levers at the level of laws and institutions, and genuine discussions about the nexus of accountability, expertise and responsibility.

To do less is to decide to muddle through indefinitely.

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