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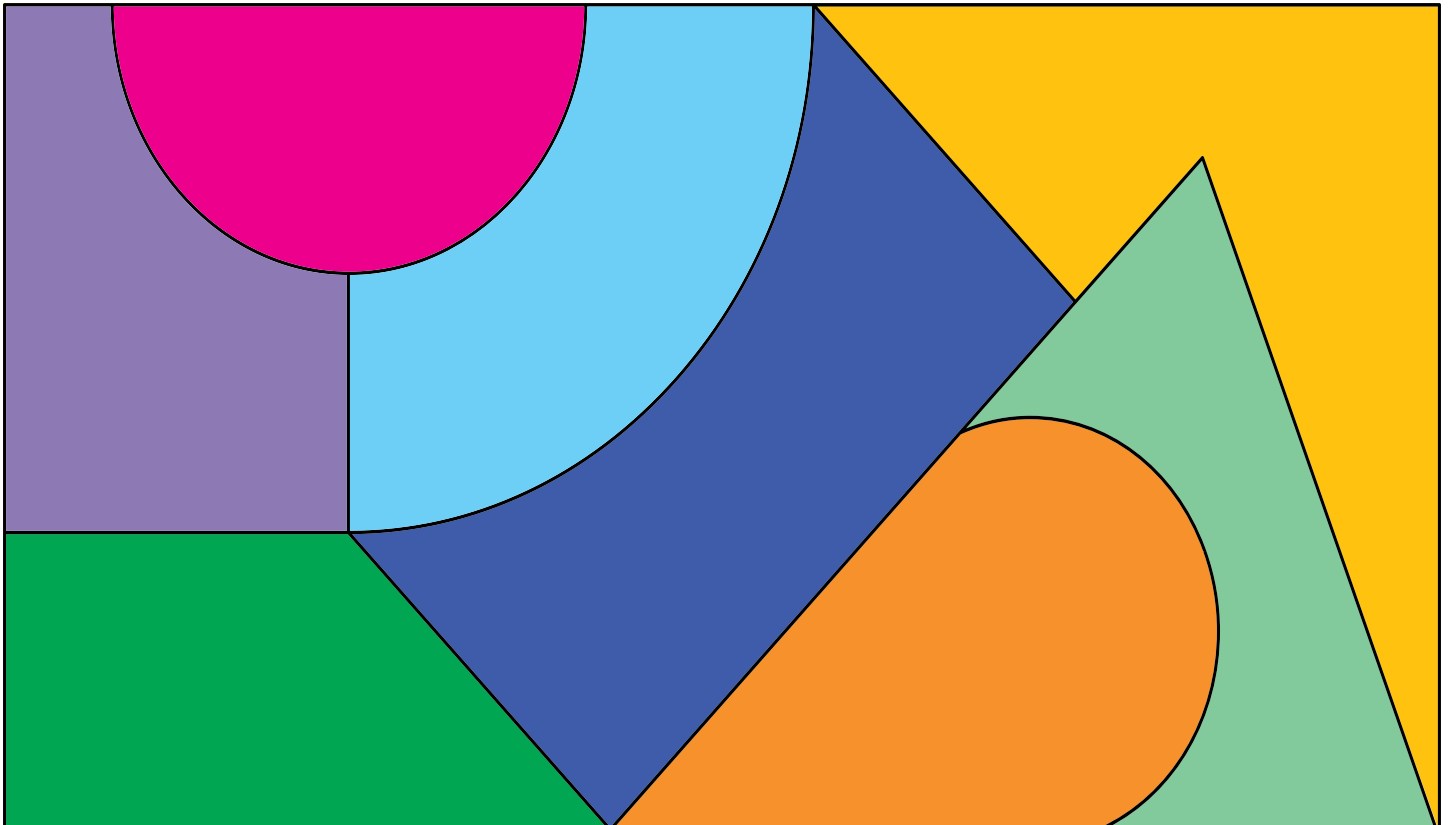


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IMPROVING THE STATE
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Global Agenda Council on the Future of Government

Future of Government Smart Toolbox

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Preface

Espen Barth Eide

Managing Director and Member of the Managing Board, World Economic Forum



The Future of Government Smart Toolbox by the Global Agenda Council on the Future of Government is released at a time when government is endeavouring to deliver against a Herculean task: to do more while reforming, “leaning up” and staying agile, all at the same time.

The government toolbox presented in this report is called “smart”, alluding to the mix of soft and hard power elements that enhance government performance. The operational question the authors attempt to answer is how technology can help governments get better at dealing with eight core government priorities: anti-corruption, political representation, stovepiping/bureaucracies, delivery of services, trust, leadership, security and innovation.

Governance in the 21st century is evolving in a context of declining trust: in 2012, the Eurobarometer’s average measure of trust across the EU27 was 27%, ranging from 62% in Finland to a low 7% in Greece. Trust for the EU in 2001 was 53%.¹ In 1964, 75% of Americans trusted their government.

Through most of the 1980s, 1990s and 2000s, trust fell to 25% in the US.

At the same time, social cohesion in many countries seems increasingly shattered. The United States has the highest level of inequality of any of the advanced countries – and its gap with the rest has been widening. In the “recovery” of 2009-2010, the top 1% of US income earners captured 93% of income growth.² According to Oxfam, the world’s 85 richest people have more wealth than the poorest 3.5 billion.³ It is high time for a discussion on the effect fast-growing inequalities have on trust, accountability and, in some cases, the entire social contract that lies at the base of any society.

According to the chapter on trust in this report, authored by Diana Farrell and Anders Borg, three characteristics of citizen trust have important implications for government: trust is not static or stable – it can change quickly and dramatically; trust varies significantly across countries and surveys; and trust has fallen over time. While trust takes time to build, it can break down fast, leading to economic, social and political tensions. The thesis of the chapter is that technology can help government (re)build trust through multiple channels, such as e-government/ e-participation, open data and social media.

Technology can also help to create a synergistic relationship between leaders and followers. But technology on its own is not enough to build smart, modern governments.

In the framework for the smart toolbox, trust and leadership are defined as “intervening” variables stemming from good government “inputs” – namely political representation, stovepiping/bureaucracies, innovation and anti-corruption – and leading to “outputs” such as security, services and trust.

Trust is thus both a parameter in and a result of good government. Government leaders need to rethink which aims or values the community to which they belong should be trying to achieve: is it economic growth, law and order, individual liberty, full employment, trust, or perhaps happiness for their citizens? Moreover, what does “good government” imply in the information era? And finally, how can governments become forward-looking and lead the most informed societies of all time?

To help governments become more strategic and forward-looking in their thinking, the Global

Agenda Council on the Future of Government and the Strategic Foresight team of the World Economic Forum created three visions of government in 2050: *e1984* is a world in which the promise of big data is realized; economic, geopolitical and cyberthreats are omnipresent; and collective solidarity is a core societal value. *Gated Community* is a world in which Big Government is broke; political power rests with individuals and private sector organizations. *CityState* is a world in which authority is decentralized to city level and pragmatism trumps idealism in addressing collective issues.

While none of these scenarios is likely to come to pass in full or in isolation from the other scenarios, each is an extrapolation of a current trend. At the conclusion of the Summit on the Global Agenda 2013, Joseph S. Nye, Jr. remarked that “today’s trends left unattended could lead to dystopian futures”. Taking, for example, urbanization or big data as forces that influence government, how can the protection of individual rights be ensured if the world is moving towards the *e1984* scenario? Or how is collective action achieved beyond cities in a *CityState* world? What would such a future entail for urban-rural relationships?

These scenarios were created for two main reasons. Firstly, to stretch the thinking of the Council on the Future of Government in order to make the toolbox as robust and as forward-looking as possible. Secondly, to facilitate insightful conversations on the potential roles and forms of government, as well as the policy actions needed now to ensure governments are prepared for the future – however it may unfold.

I would like to convey my sincere gratitude to the Members of the Global Agenda Council on the Future of Government, who worked tirelessly for 16 months to produce this report. I particularly wish to thank Joseph S. Nye, Jr. for lending us his wisdom for this report and for coming up with the idea and concept behind the toolbox. Diana Farrell, our Vice-Chair, was also instrumental in making this report possible. I need finally to thank Melita Leoussis and Carl Björkman, as well as Kristel van der Elst and her Strategic Foresight team, for the work and resources they put in this ground-breaking effort. In closing, I would like to acknowledge the Government Summit, United Arab Emirates, for their great support and for co-sponsoring the Future of Government Smart Toolbox.

¹ Eurobarometer, European Commission, Report number 56, Autumn 2001, http://www.ab.gov.tr/files/ardb/evt/1_avrupa_birligi/1_6_raporlar/1_4_eurobarometers/EUROBAROMETER_PUBLIC_OPINION_IN_THE_EUROPEAN_UNION_Report_Number_56.pdf

² Joseph Stiglitz, “The Price of Inequality”, Project Syndicate, 5 June 2012, <http://www.project-syndicate.org/commentary/the-price-of-inequality#p5roCC18ejYcfL5.99>

³ Oxfam, Working for the few”, Oxfam Briefing Paper – summary, 20 January 2014, <http://www.oxfam.org/sites/www.oxfam.org/files/bp-working-for-few-political-capture-economic-inequality-200114-sum-en.pdf>

Foreword

Joseph S. Nye, Jr.

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The debate about good and bad government is as old as ancient Greece and as powerful as Ambrogio Lorenzetti's painting *Allegory of Good and Bad Government* (1337-1339), which covers three walls of the Sala dei Nove in the Palazzo Pubblico in Siena. In the case of good government, the dignified ruler sits among the virtues of Courage, Justice, Magnanimity, Peace, Prudence and Temperance. The image of the city is one of stability, prosperity and happiness.

This marvellous depiction of good and bad government raises an eternal question in political philosophy, whether good government is important and, if yes, why. We would argue that good government matters for three main reasons: first, because the difference between good and bad government can be felt by the citizens as it decisively affects their quality of life. Second, the citizens are active participants in shaping their governments. Third, there are drivers

of good government and strategies to design a prosperous future.

We would argue that good government matters more in a digital world as technology puts the spotlight on inputs and outputs of government, such as the delivery of services or innovation, as we discuss in this report, which dramatically affect the well-being of citizens.

Good government and the impact on the life of citizens: In a networked world, information travels fast and communication has become inexpensive. NASA recently downloaded data at a rate of 622 megabits per second (Mbps), when the average internet user has a connection speed of 3.3 Mbps.⁴ All things being equal, the fact that the citizens of country "X" know that the citizens of country "Y" enjoy, for example, better living standards, all the more exacerbates the perception of the "pain" caused by living in country "X".

The rise of followers: Technology has also enabled civic participation in the decision-making processes and has given a voice to a plethora of networked groups.

Political representation creates a new power structure between leaders and citizens as the rise of the followers through technology flattens hierarchical structures and holds governments more accountable.

Elements of good government: In the report, we give examples of good government in eight priority areas. Good performance in key sectors normatively leads to a successful state. Moreover, long-term strategic vision makes up for good leadership in the digital era. We designed the Smart

Toolbox testing the hypothesis of whether the elements of good government are changing in the digital era. To effectively shape the future of their societies using the right tools, government leaders need to ask themselves what governance will look like in 2050.

Since the information revolution is already marginalizing some countries and communities – and creating new opportunities for others – the question could hardly be timelier. The Council identified a few drivers that will affect the government of the future in order to set the context for governmental transformation. These are: urbanization/mega regionalism; community building/identity; societal expectations; availability of financial resources for government; non-governmental delivery of services; division of labour among actors; big data; cyber-capabilities; complexity of challenges; fads and fashions in governance models; and leadership.

Our priority with the smart toolbox is to consider ways in which information technology can improve governance and reduce feelings of alienation among the governed. Knowing the trends that will change the future of government, we want to help leaders to envision the future that they want for their countries and map it out in a context of uncertainty. The most effective initiatives, the Council observed, often arise from partnerships between government and the private sector. Our toolbox is only a start. We invite others to help fill it.

In closing, I would like to thank all authors of this report who contributed their ideas and knowledge to the Future of Government Smart Toolbox.

⁴ Voice of America, "NASA Breaks Data Transmission Speed Record With Laser Shot to Moon", 23 October 2013, <http://www.voanews.com/content/nasa-breaks-data-transmission-speed-record-with-lasers/1775679.html>

Executive Summary

The Power of Technology to Change and Shape the Future of Government: A Smart Toolbox

Public sector leaders around the world face a daunting challenge to deliver good government in the 21st century. They are under increasing pressure to deliver more and better services to a growing urbanized population, and to manage complex issues, from macroeconomic uncertainty to international conflicts, in an environment of diminishing trust in government, increasing bureaucratic complexity and natural resource constraints.

This Smart Toolbox, developed by the World Economic Forum's Council on the Future of Government, shares insights on how technology can strengthen good government – for example, by enabling greater transparency of government actions through open data, empowering citizens to have faster and more accurate access to online services, and helping to strengthen responses to aid civilians in conflicts. It also explores the risks and challenges of an increasingly digital era, including the often expensive and complex need to keep pace with changing tools and technology, the divides that can expand between user groups that have less ease of use, and the security and protection of data and information.

The Council posits that, if well managed and strategically deployed, information and communication technology (ICT) can reshape government in the next decade by strengthening **trust in government, leadership, delivery of services, political representation, anti-corruption, bureaucratic cooperation, the management of conflict, and innovation**. In each chapter, the authors define the topic, assess its varied and changing meaning, explore how it is affected by ICT, offer key insights

and share case examples that public sector leaders can apply in their work. The toolbox also assesses risks, including privacy, security, access, and organizational capabilities to build and manage new IT plans.

The toolbox takes **trust in government** – a cornerstone of good government – as a unifying theme. Without the trust of its citizens in the political process and in government representatives, leaders struggle to pass legislation and enact policies. Moreover, trust is a holistic indicator of when government is “good”. Measuring trust can help government to benchmark progress, identify gaps and learn from best practices across the world.

Besides trust in government, the Council identifies **leadership in government** as the second underlying factor and an intervening variable. The information revolution and democratization are causing a long-term secular shift in 21st century government and post-modern organizations. Building leadership in the technological era will shape the social contract between governments and citizenry as traditional structures of power and the leadership-followership-context triangle are redefined.

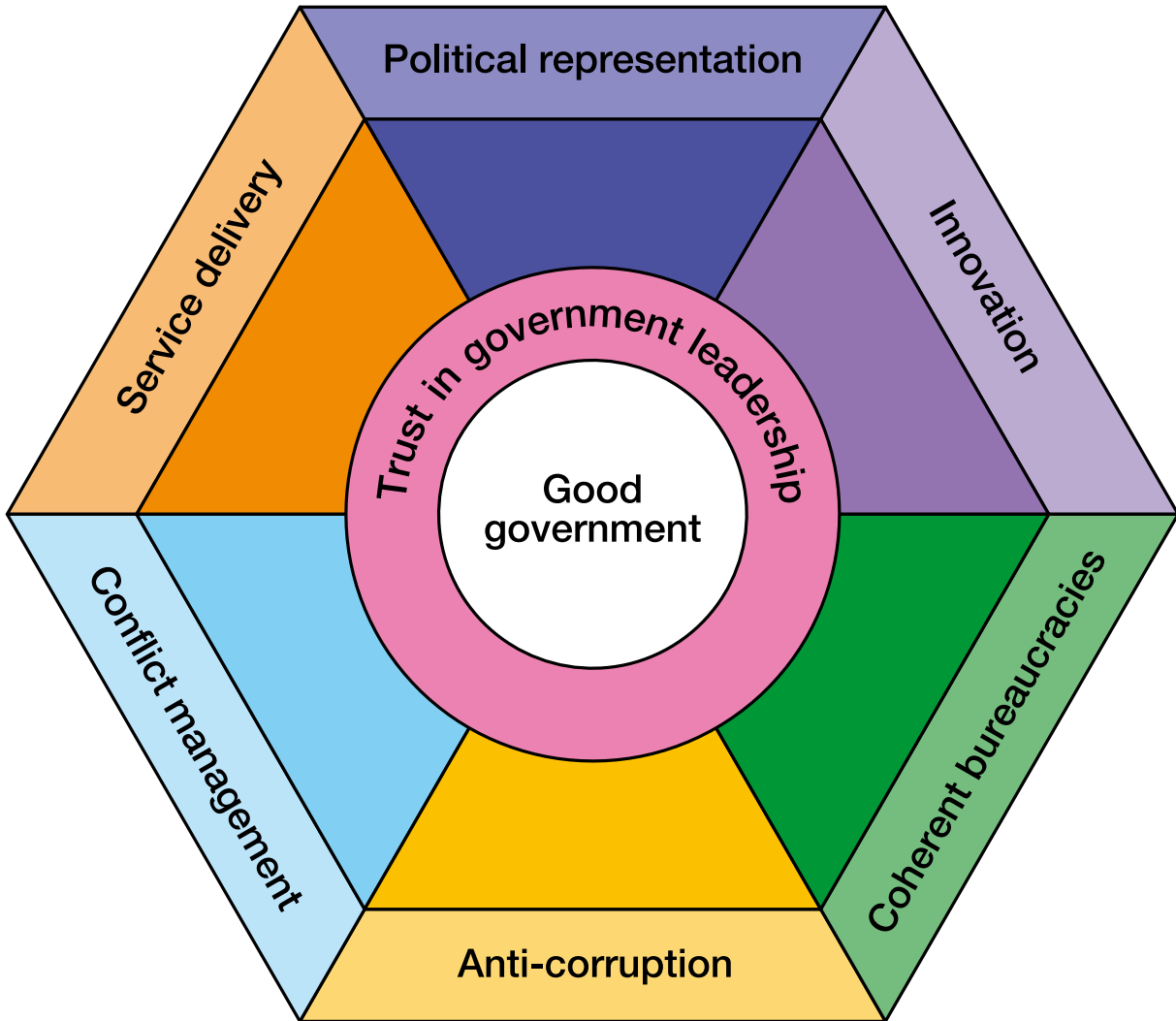


Exhibit 1: Support Structure for Good Government

This pervasive role of the two intervening variables, trust and leadership in government, and their interrelationship with other factors, or what are called inputs and output of government, is shown in Exhibit 1.

To help users to navigate the toolbox and decide where to explore further, this executive summary gives an overview of the chapters and concluding insights.

The first chapter focuses on the unifying theme of **trust in government** and the role of ICT in trust. There are several reasons why trust matters, but two in particular stand out. First, trust is a positive attitude that is valuable as an end in itself. Second, trust improves a government's ability to serve citizens.

The authors provide a framework that relates trust and government performance – encompassing transparency, resonance, accountability, accessibility and responsiveness – to all components of the toolbox. They also examine the nature and importance of trust, recent trends in public trust in government, factors which help to build trust, and how ICT can enhance or erode trust. The following are important lessons and recommendations:

- Technologies that improve government performance can be most powerful when deployed in combination with (and as part of) a coherent, citizen-focused strategy.
- Governments need to create the right enabling environment that unleashes the power of technology to improve trust. This includes supporting technologies such as high-speed

internet and mobile access, and the appropriate framework to tackle security, privacy and access issues.

- Technology is not a silver bullet for achieving greater trust. Delayed or ineffective e-government or e-participation platforms can damage citizens' perceptions of government performance, a core component of trust.
- Government leaders should put real thought into designing a system that uses technology effectively to rebuild trust. Given the rapidly changing nature of technology, programs and rules should be adaptable and responsive to new concerns and capabilities. Given the complexity of trust, governments need to exercise care in setting targets, monitoring progress and benchmarking against other countries.

The second chapter looks into **leadership** in government. It discusses the evolution of leadership and whether and how leadership is changing with technology. The authors discuss two taxonomies of leadership vis-à-vis technology: the internal, related to a leader's person, position, process and result; and the external taxonomy as it relates to followership and context.

Three key aspects of ICT have the potential to transform government and private sector leadership: information technology, big data, and disruptive and exponential technologies.

- **Information technology:** This technology is affecting the structure of organizations. Hierarchies are becoming flat and networks of outsourcing maximize benefits through the effective allocation of resources (process). Moreover, the current access to information, the ability to express and the capacity to connect impact the relationship of leaders and followers more than any other of the previous information technologies (position). Finally, no longer do people in leadership positions have the power to distance themselves from their constituents or claim their privacy. Calls for accountability and ethical and financial conduct are becoming the rule (person).
- **Big data:** Governments will benefit from using big data information and analytics to increase efficiency (process).
- **Disruptive and exponential technologies:** Disruptive innovation has been described as "a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors" (process). Governments as well as the world's top enterprises will need to employ exponential technologies and innovation to dramatically accelerate their objectives (result).

The third chapter focuses on the impact of ICT on the **delivery of services**. ICT has the potential to improve government performance and rebuild trust. Today, digital technologies play

an increasingly important role in the daily lives of people and businesses, altering attitudes towards the nature, delivery and providers of the public service. Citizens expect to have fast, easy, safe and accurate access anywhere, anytime. The technology includes open data and big data; embedded technologies and the Internet of Things; integrated and ubiquitous mobility platforms; cloud computing; and next generation networks. However, they also come with risks and challenges that governments need to address.

The authors examine how ICT can enhance and transform services, enable citizens to co-create new services, and ensure the conditions necessary for these enhancements to be successfully implemented.

- **Align with an overarching digital government strategy or plan:** A precise diagnostic can help to assess digital maturity and determine the technologies and platforms to be used. The government can then define a digital roadmap to launch pilots and capture and adapt to learnings, then scale broadly.
- **Foster the adoption of the new service delivery modes:** Inclusion is the first condition to achieve this goal. Governments may have to invest in infrastructure (such as e-service kiosks in rural locations) and human capital (especially digital literacy). Governments will have to address concerns about privacy and security, which could hinder adoption.
- **Invest in new capabilities, both human and technological:** Digital technologies are an enabler and a means to communicate and understand one another. Core skills are required to ensure optimal benefit out of the opportunities that technology presents while managing its risks.
- **Collaborate between agencies, governments and private entities:** Partnerships between stakeholders and user groups are critical to ensure people know how to access new services and are part of co-creating the next evolution.
- **Ensure the reliability of the new service delivery modes:** Governments must strive to maintain a constant level of availability and quality. Citizens must be able to obtain information and rely on fundamental services, even in dire circumstances (in the case of natural disasters, for instance).

The fourth chapter addresses how ICT will impact **political representation**. Despite the hope that the internet would allow anyone to be politically represented and engaged, the impact varies widely. The authors assess a range of approaches to achieve representation, including deliberative and participatory democracy, and explore the exogenous and endogenous factors that influence representation, how government can shape them, and the specific role of ICT. ICT has two primary influences, often operating in tandem. It enables greater representation (voice) and allows stronger

government oversight: surveillance, filtering and control. Getting this balance “right” is a key challenge. The authors share the designs and practices that are most effective, the outcomes that might be expected from higher-quality political representation online, and caution the risks of failed approaches. These include:

- **Plan and invest:** Many governments are not ready for ongoing “e-interaction” with the public, which can be costly and complex. Leaders should develop proactive plans and invest in tools, expertise and management systems.
- **Connect core institutions:** The executive function, parliaments and courts convert citizen interests and preferences into policies, and should have ICT initiatives embedded in the way they operate.
- **Make it inclusive:** ICT can help to increase trust, legitimacy, policy-making effectiveness and governance, but the new “spaces” of participation must be informed and moderated to ensure stakeholders are represented.
- **Understand real limits:** ICT provides many tools for improving representation, but each has costs and benefits that should be weighed and used in concert with other mechanisms.
- **Engage rather than restrict:** Rather than trying to control ICT channels, a better approach for governments is to assess and understand them, and to actively participate to be part of the dialogue.

The fifth chapter examines the impact of technology on **anti-corruption**. The scourge of corruption erodes trust and challenges the foundations of good government. It undermines the efficiency of revenue and spending, threatens competitiveness, and weakens political fairness, safety and inclusion. The authors articulate a theory of “big data, better government”, where technology can help to tackle the root causes of corruption, particularly through big and open data. It can do so by dismantling traditional information monopolies, limiting the discretion of public officials by automating processes such as the distribution of payments and benefits, and enhancing the detection of corruption by empowering citizens to hold public service providers to account.

In evaluating the benefits and risks, the authors offer these key insights:

- Opening up information and decision-making to as many people as possible can combat corruption and disrupt the information monopolies, discretion, and lack of accountability upon which corrupt systems depend.
- For better government, the “openness” of data is more important than size. Governments and corporations need to ensure that the data they publish is accessible, readable, manipulable and interoperable.
- Data activists are agents for transparency, accountability

and change. From app programmers to NGOs and local community leaders, they need to be recognized, empowered and protected.

- Technology will inevitably lead to policy change – but it needs to be change in the right direction. Commitment to transparency can sometimes come at a price, but policy-makers need to ensure they position themselves on the right side.
- Government and the private sector need to work together for mutual gain. Policy-makers should meet with industry representatives to discuss the terms on which such data could be made available to each other, and engage the public to capture feedback and understand the effort’s goals.

The sixth chapter deals with the issue of **coherent bureaucracies, stovepiping and silos within government**. Silos can undermine trust between departments and agencies, and consequently weaken citizens’ trust in government to deliver fast and consistent service. Yet in today’s world, collaboration, coordination and horizontality in government operations and service delivery are “musts”. They are facilitated by the rapidly expanding potential of technology and critical changes in society and the policy environment. ICT represents a huge opportunity to promote and encourage the sharing of information and shared ways of working between departments, leading to great intra-government transparency and responsiveness.

The chapter explores how to successfully implement “whole of government” approaches to breaking down silos, and the capabilities needed for ICT to be part of this solution. A combination of strategy, people and technology must be pursued. Strong leadership, effective monitoring and well-defined accountability of actors and stakeholders are the critical requirements for performing changes across sectors, levels of government, and jurisdictions. Encouraging examples of innovation must be shared to favour the emergence of a culture of continuous improvement. Innovations are needed as much in the way governments work as with the policies that they choose. In an open policy environment – with access to social media, smartphones and connected citizens – government can draw from innovative pathways for consensus building and sharing diagnostics and policy options. ICT can help but should not be seen as the single solution, nor as without risk.

The seventh chapter assesses the role ICT can play in escalating or addressing **conflict** when trust in government is low or absent. Today, intrastate conflict is rising, including civil wars and sectarian violence. A breakdown of trust in government is a common cause of domestic and even international disputes. ICT can be used by disaffected and distrustful citizens to disseminate information and mobilize supporters, but it can also be deployed by international efforts to protect and support civilians affected by conflict. International actors have started to incorporate

ICT to support civilians in conflict zones, but there is room for further development. The authors emphasize this changing face of conflict and potential implications for society at large. The chapter outlines the key challenges and ways ICT can expand capacities of international agencies to help civilians, including:

- **Health:** ICT can improve physical and mental health services, supplies and information when there are shortages in medical personnel and staff.
- **Education and employment:** Distance learning, delivered through inexpensive mobile devices or computers, is one way to address the education gap.
- **Security:** To ensure the security of camps, unmanned aerial vehicles could be used for reconnaissance.

Integrating recent technology innovations into the aid landscape may require the legal and operational frameworks to support the appropriate processes by the aid community. It would be preferable for this process to be undertaken by international multilateral and multistakeholder governing bodies, as the private sector has an important role to play.

The eighth chapter explores **innovation in government**.

The ability to recognize, assess and nimbly respond to challenges is crucial for governments to preserve stability and sustain growth in the face of changing times. While dealing with increasing constraints such as limited budgets, geopolitical risks and trade competition, the public sector needs to innovate to successfully fulfil its mission. The state has a role to play in contributing to improving the country's competitiveness by ensuring good conditions for economic and social prosperity and by sustaining the innovation capacity, including an advanced knowledge-based economy.

ICT can help government, for example in the following ways:

- ICT innovation can generate non-technological innovation, such as know-how, skills and organization. It can be a means to provide new services or improve supply, fostering core values such as efficiency, accessibility and transparency.
- ICTs and technological innovation in general can be a result of the government's actions. Public procurement, with specific needs, can induce technological innovations.
- ICT is crucial to imagine, implement and monitor policies and services – yet, it has no intrinsically positive effects, and should be carefully understood and analyzed.
- ICT gives the public sector new incentives and ways to fulfil core missions to deliver services in an efficient, transparent and accountable way. New ICT is a means of monitoring risks and anticipating the future.

The final chapter outlines **three scenarios for the future of government** that were developed by the Council in collaboration

with the World Economic Forum's Strategic Foresight team. The scenarios depict possible contexts within which questions can be asked about the future roles and forms of government. They were developed to stretch the thinking of the Council Members to help make the toolbox as robust and forward-looking as possible. They are also a resource for facilitating insightful conversations among a range of stakeholders about policy actions needed to ensure governments are well prepared for the future, however it may unfold. Exploring the different ways in which these forces could play out in the future led to the development of three scenarios:

- **e1984:** This is a world in which the promise of big data is realized; economic, geopolitical and cyber threats are omnipresent; and collective solidarity is a core societal value. Amid economic volatility, geopolitical instability and the rise of cybersecurity concerns, there is an upsurge of nationalism. People are willing to trade some freedoms and privacy for an increased sense of collective security.
- **Gated Community:** This is a world in which Big Government is broke. Political power rests with individuals and private sector organizations. Individual responsibility and choice prevail in society, and the private sector has become the main provider of collective services.
- **CityState:** This is a world in which authority is decentralized to the city level and pragmatism trumps idealism in addressing collective issues. Urbanization leads to growth in the number of cities and their size and consolidation. The scale of cities means they can innovate and get things done more easily, which raises their relevance and power vis-à-vis national governments.

ICT is rapidly evolving, often empowering, and potentially destabilizing. It can strengthen justice, participation and service quality but it also comes with risks. All chapters explore common challenges, including fairness of access to technology, safety and security of data, and the need for government to invest appropriately in people, tools and new management structures to support technology. It takes intentional and proactive work to harness ICT's potential.

The Smart Toolbox is designed as a resource for government leaders and other stakeholders who are vital to making ICT's promise a reality, including technologists developing the next wave of apps and tools, journalists reporting on the advent of open data, executives seeking new partnerships with government, and citizens who want to understand, promote or engage with ICT in government. Sharing ideas and best practices from different parts of the world and a variety of expertise is a main function of the Global Agenda Council on the Future of Government. The Council welcomes feedback and hopes this serves as a useful toolbox.

Chapter I:

The Impact of Technology on Trust

Chapter I:

The Impact of Technology on Trust

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Introduction

Trust is at the core of how most citizens define good government. To govern more effectively, leaders need to safeguard or rebuild citizen trust. Yet many leaders struggle to improve trust, especially in countries where it has deteriorated. ICT has been widely used to improve people's quality of life and levels of trust by providing transparency, engaging citizens more deeply and effectively, and delivering services more efficiently. However, revelations about governmental use of electronic surveillance illustrate potential dangers that jeopardize long-term trust in both government and technology if important safeguards are not in place. This chapter explores the nature and importance of trust, the factors that determine the level of citizen trust in government, and the potential role for technology to rebuild and sustain that trust.

Overview

Good government and trust go hand in hand. Trust measures the degree of faith or confidence that people have in one another or a particular institution. In the context of government, that could be trust between citizens, trust between government entities, or trust between citizens and their government – which is the focus of public-sector leaders and this analysis. There are several reasons why trust matters, but two in particular stand out. First, trust is a positive attitude that is valuable as an end in itself. Second, trust improves a government's ability to serve citizens.

Citizens' trust in government is simple to understand and is frequently championed by government leaders as an important goal, but it can be difficult to identify and quantify. Like satisfaction and happiness, trust is measured by using surveys or opinion polls with a defined scale to ask attitudinal questions about the degree to which citizens trust their government.

From surveys dating back as far as the 1950s, three characteristics of citizen trust have emerged with important implications for governments: trust is not static or stable – it can change quickly and dramatically; trust varies significantly across countries and surveys; and trust has decreased over time.

Impact of ICT on Trust

Over the past two decades, ICT has proliferated around the world, transforming how people live and how government works. Email is now the primary way people inside and outside of government communicate, with over 140 billion emails sent every day. Governments make

widespread use of cloud services and apps for storing information and providing citizens with access to data and services. Use of personal-ID smart cards is widespread. Mobile phones are used to access government services in Estonia, transfer money in Kenya, and plan

commutes in Singapore. The transformative impact of technology, particularly on the way government engages and serves citizens, has the potential to increase trust. Three areas of technology in particular may empower public sector leaders to rebuild trust in government.

1. E-government and e-participation

These tools can help governments to deliver services more efficiently and effectively, giving citizens a mechanism to hold government accountable, reduce the perception of unfairness and improve access.

E-government typically involves the electronic delivery of government services, from tax returns to pharmacy prescriptions, through a single online portal. Countries including Canada and South Korea have incorporated technology enablement of payments and procurement as part of their e-government offerings. E-participation involves providing electronic channels for citizen engagement. This can take the form

of electronic voting, as implemented in Brazil or Estonia. It can also take the form of non-electoral participation on specific issues, such as the implementation of participatory budgeting in Cologne, Germany. Specifically benefits include:

- **Delivery:** E-government can help governments to deliver services to citizens more effectively and efficiently. New companies in Estonia can register online in only 20 minutes.
- **Accountability:** E-participation channels give citizens more ways to hold governments accountable. Through Regulations.gov, US citizens

can share feedback. Over 27,000 comments come in monthly.

- **Fairness:** E-participation mechanisms, particularly in emerging economies, can reduce perceptions of corruption. In Brazil, the introduction of electronic voting helped to reduce the proportion of ballots counted as invalid from up to 40% to under 10%.
 - **Accessibility:** E-government and e-participation can improve access. More than 90% of Estonia's population has electronic ID cards, and more than half of Sweden's citizens have used the internet to obtain information from public authorities.
-

2. Open data

This can provide transparency into government actions and outcomes; enable low-cost access to critical data; unleash value in the economy when combined with big-data analytics; create a basis for apps that respond to citizen needs; engage citizens in co-delivery of government services; and share performance metrics that give citizens more transparency into government.

Government provision of open data has evolved significantly over the past decade, from the simple digitization of government documents (such as land and health records), to the creation of open-data portals that make government data available in a free, accessible, machine-readable and unrestricted form. Open data extends to "MyData" – information collected about an individual that can then be provided to that individual. A recent report by McKinsey estimates that open data has the potential to unlock \$3 trillion in economic value

across seven domains of the economy alone. If properly utilized, open data can help to rebuild trust in government through several channels:

- **Transparency:** Open data sets provide citizens with greater transparency into government decisions, actions and outcomes. Brazil's Public Expenditure Observatory facilitates continuous audits of the use of public funds. In 2010-2011, it monitored around R\$128 billion and issued thousands of alerts regarding potential inappropriate spending.
- **Accessibility:** Digitized records and open-data portals can provide citizens with low-cost access to important data. In the early 2000s, India's Karnataka state government digitized more than 20 million land records and set up more than 170 kiosks

where residents could access records needed for many basic administrative tasks, such as obtaining a bank loan.

- **Delivery:** Releasing data through portals such as the US [Data.gov](#) also provides a basis for co-creating applications that respond to citizen needs. In Sweden, Trafikverket, the transport agency, publishes real-time data on all train movements. Third parties use this data to create apps for travellers and shippers to make informed decisions on travel modes and routes.
 - **Accountability:** Platforms have been launched to help citizens to use open data to hold elected officials accountable. In the United Kingdom, [TheWorkForYou.com](#) aggregates data on each Member of Parliament. Citizens can access their local Member's records, expenses and financial interests.
-

3. Social media

This can empower citizens to share ideas and have their voices heard. It grants greater access to government officials and decisions, provides a non-electoral channel through which citizens can hold government officials to account, and creates the potential to improve service delivery through real-time social data. The potential for social media to change the relationship between citizens and government can be seen in its sheer scale. Facebook has more than one billion active users. YouTube receives more than 100 hours of video uploaded every minute. Twitter users have sent over 170 billion tweets since the site's launch.

There are a number of channels through which social media can impact citizen trust in government:

- **Accountability:** Social media is emerging as an important non-electoral channel through which citizens and organizations can hold governments accountable. In 2013, a coalition of non-governmental organizations, including Christian Aid, used a social media campaign to put the issue of tax evasion on the G7 ministerial agenda.
- **Delivery:** Real-time data provided through social media can help

governments improve service delivery, particularly in times of crisis. Google's Crisis Response platform uses a range of data, including social media data, to track and support responses to natural and man-made disasters.

- **Responsiveness:** Social media, particularly tools like Twitter and Facebook, give citizens direct access to public-sector leaders and creates pressure on those leaders to respond. Most politicians now have a Twitter or Facebook account, and citizens can use these forums to ask their elected representatives direct and public questions.

Individually, each of these technologies – e-government and e-participation, open data and social media – can help governments to rebuild citizen trust, if harnessed appropriately. In combination, these tools and platforms can be even more powerful. Linking open data and social media to an e-government platform can create an environment of mutually reinforcing social trust. Rebuilding trust in government will also require progress on a range of enabling technologies and processes such as high-speed internet, mobile technology, and appropriate protocols and security measures.

Conclusion and Recommendations

In the wake of the global financial crisis, trust in government has fallen to historic lows. The impact of this erosion is real and harmful. Today there is less popular acceptance of public policy, higher administrative costs, and weakened legitimacy for laws and regulations. The most direct and powerful way to rebuild trust is by improving the attributes and performance of government – for example, becoming more transparent, enhancing procedural fairness, improving accountability, and being more responsive to citizen needs.

The following are important lessons and recommendations to rebuild trust:

- Technologies that improve government performance can be most powerful when deployed in combination with (and as part of) a coherent, citizen-focused strategy.
- Governments need to create the right enabling environment that unleashes the power of technology to improve trust.

This includes supporting technologies such as high-speed internet and mobile access, and the appropriate framework to tackle security, privacy and access issues.

- Technology is not a silver bullet for achieving greater trust. Delayed or ineffective e-government or e-participation platforms can damage citizens' perceptions of government performance, a core component of trust.
- Government leaders should put real thought into designing a system that uses technology effectively to rebuild trust. Given the rapidly changing nature of technology, programs and rules should be adaptable and responsive to new concerns and capabilities. Given the complexity of trust, governments need to exercise care in setting targets, monitoring progress and benchmarking against other countries.

Achieving good government calls for a fundamental change in the government-citizen relationship. Public-sector leaders around the world can use the power of technology to rebuild citizen trust to fulfil this aspiration.

Case Studies

Swedish Tax Agency

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In 2006, the Swedish Tax Agency invested in faster, more accurate and user-friendly e-services to meet two goals: increase trust and improve compliance. Within six years, citizens' trust in the Swedish Tax Agency increased from 68% to 83%, and a 2012 study, that compared trust in different agencies, ranked the Swedish Tax Agency number one.¹

Specific E-Services Developed by the Swedish Tax Agency

E-filing of VAT returns: About a decade ago, the Swedish Tax Agency introduced an e-filing service for VAT (value added tax) returns. At the outset, only a handful

of taxpayers were using e-filing, sticking to paper returns even if they were experienced internet users. A survey revealed that users found e-filing more difficult and burdensome than the paper form. An external evaluator concluded that the design had simplified processing at the back-end for the tax agency, but not at the front-end for the taxpayer. The e-service was therefore redesigned and is now widely used.

The lesson is that while it is vital to have back-end functionality for the agency, the focus should be on the user from the start.

Electronic filing of income statements:

The Swedish Tax Agency uses a prefilled tax return that is based on income statements from common sources such as employers and banks. More than 99% of income statements are delivered electronically in a timely way, even though there is no penalty for late filing. Several factors contribute to the success of the voluntary e-service.

First, the tax agency provides free software for employers, which enables them to keep track of employees' information and send it directly to the tax agency. The software is effective and serves as a one-stop shop for employers to track other employee information, thus streamlining their processes. Second, the Swedish Tax Agency accepts information via a range of

electronic media, including USB sticks, tapes and even old floppy discs. This eliminates a common pain point and barrier to e-service adoption: time-consuming file transfers.

The e-filing app: In 2011, the Swedish Tax Agency launched an application (app) to access prefilled tax returns on a smartphone or tablet. At first, agency officials thought this was unnecessary, as the app did not bring any distinct capabilities compared with existing e-filing. Smartphone or tablet users could already file their tax returns by phone, text message or website. A traditional cost-benefit analysis showed no advantage of investing in the app, but the agency went ahead with it anyway. The results were striking. The app brought more than 120,000 users in the first year and got positive reviews from taxpayers and the press. It also helped drive broader adoption of e-filing.

The key lesson is that technology should involve some educated risk-taking – such as the launch of an app – since different tools can open the way for a multiplier effect for e-participation. Government agencies that aspire to make more citizens migrate to their e-services must make the service user-centric, concentrating on an efficient user-interface design.

Karnataka Land Records Digitization

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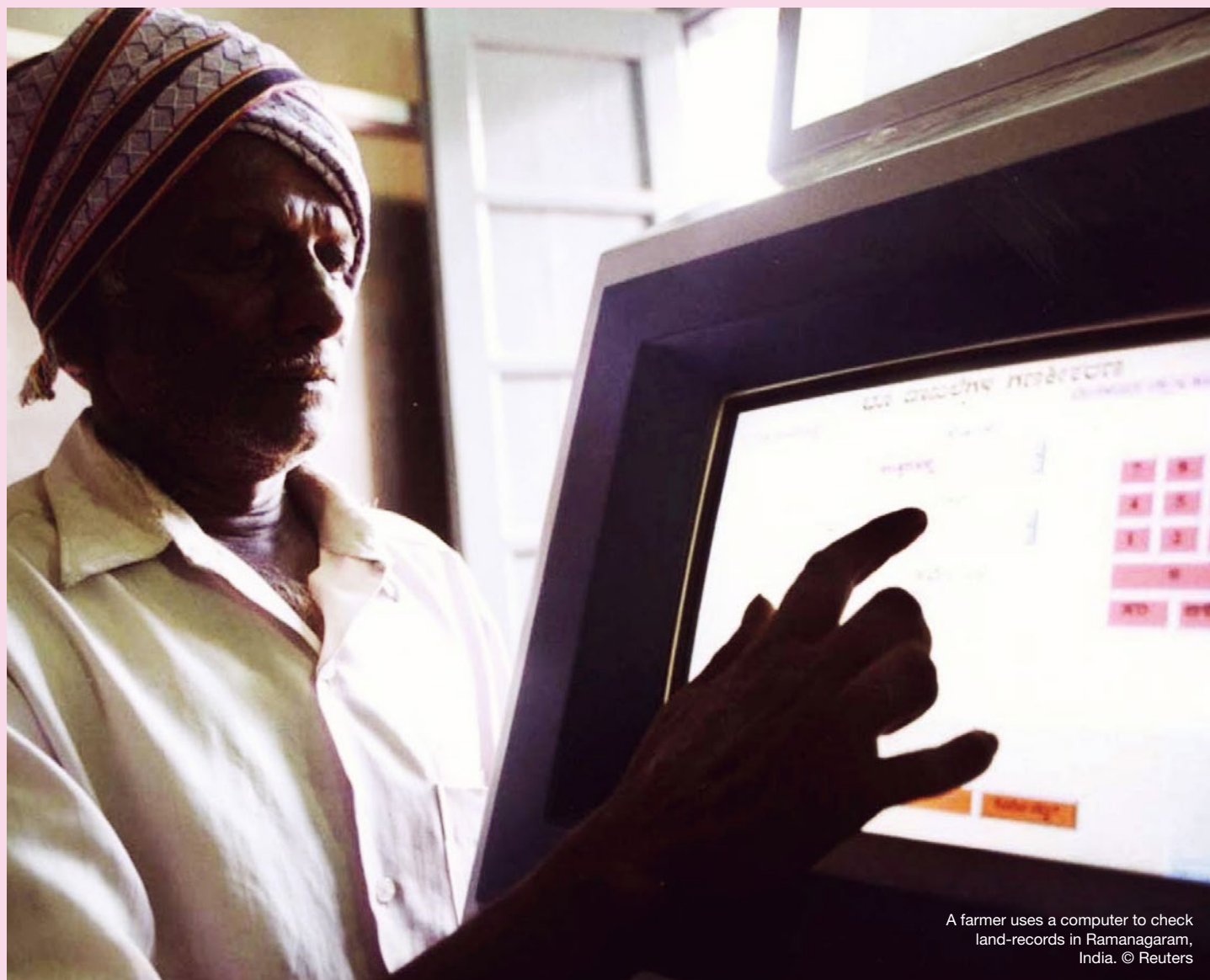
India's vast, paper-based land-records system is plagued by corruption and bureaucracy, which is problematic for the millions of farmers who require documentation to secure bank and crop loans and to accomplish other important financial and administrative tasks. Access to these documents has historically been controlled by absentee and often corrupt

village accountants. To overcome this barrier to economic development, the state of Karnataka launched a digitization effort. By 2002, as part of the Bhoomi Project, 20 million records of rights, tenancy and cultivation (RTC) held by some 6.7 million farmers were transferred from corruption-prone paper to easier-to-access and more accurate digital forms. The state department

of revenue set up 177 computerized land-records kiosks in sub-district offices across the state, providing faster and more direct access to RTCs and "mutation" requests, such as land-ownership change. Since their launch in 2002, the kiosks have provided documentation for 100 million RTCs.²

The project has improved:

Accessibility: Bhoomi kiosks have expanded RTC access for rural farmers, empowering them during interactions with local civil servants, bank staff and other administrators. The system has dramatically reduced the time required to process an RTC request. Previously, under the manual system, requests took between five and 30 days to process, and only 5% of users obtained an RTC on their first visit.



A farmer uses a computer to check land-records in Ramanagaram, India. © Reuters

Now, for 79% of kiosk users, the wait for their records is less than 10 minutes, and 72% receive a copy on their first visit.

Resonance and transparency:

Bhoomi has all but eliminated bribery from the RTC request process. Under the manual system, 66% of users reported having to pay a bribe to receive their documents, whereas only 3% have paid a bribe under the digitized system. The estimated net savings for Bhoomi kiosk users are Rs 134.37 (\$2.2) per RTC transaction – or Rs 806 million (\$13.3 million) annually. Land-based litigation, which accounted for 70% of court disputes in 2002, has since fallen by 50%.

Delivery: Bhoomi kiosks have reduced the resources required to manage the RTC request process by 1.32 million personnel days per year. This represents government savings of Rs 66 million per year.

Accountability: The online system was designed with key protections including log-in procedures, encryption and public/private keys to trace actions back to the operator and supervisor who executed them. This design makes employees directly accountable and reduces errors, limits the temptation for corruption, and creates a culture of transparency.³

The Bhoomi Project's success inspired the Indian government to invest \$1.5

billion in the National Land Records Modernization Programme, launched in 2008. While it is widely acknowledged that technology has limited the potential for future corruption, the system has inherited mistakes from the old land records that were uploaded onto the digitized system. Until records that were uploaded without verification are corrected, the system will simply perpetuate injustices committed up to 70 years ago. The system also relies on the government to invest in the rapid spread of technology, centrally manage this technology to maintain its integrity, and provide intensive instruction to local civil servants to use and support the kiosks.

Using Social Media to Map and Treat the Spread of Disease

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In the early days of a disease outbreak, clinicians, public-health officials and policy-makers need quick access to accurate data to plan a response. However, data collected through official public health institutions is often not available for weeks. Many stakeholders in the public health arena think social media can help solve the problem. To test this theory, scientists at Boston Children's Hospital and Harvard Medical School analyzed communication on two social media sites – HealthMap and Twitter – during the cholera outbreak that followed Haiti's 2010 earthquake.⁴ The goal was to determine whether, over time, the trend in the volume of cholera cases reported on these sites would correlate with official reports.

The study found a correlation between real-time, informal data and officially reported case data during the initial stages of the outbreak. Reproductive estimates – the number of new cases likely generated by a single case over the infectious period – also proved accurate. An additional and critical advantage was that informal online data was available up to two weeks before official sources. In 2009, a separate study presented evidence of a correlation between informal disease data in the form of queries to online search engines and the spread of influenza-like symptoms across the United States.⁵ If informal data sources are used successfully, there is likely to be a positive shift in attributes that build trust in government, including:

Delivery: Early detection of an outbreak can have a radical impact on the government's ability to contain and treat the spread. Using real-time social-media data can provide valuable insights into the trajectory of an



Twins receiving cholera treatment at a clinic in Port-au-Prince, Haiti. © Reuters / Allison Shelley

outbreak, help project its spread, and provide guidance on the control measures needed. Using trajectory mapping, for example, can help governments target possible sources of the outbreak.

Responsiveness: Governments can involve citizens in actively seeking and reporting real-time outbreaks of disease. Citizens can play a role in the immediate and efficient management of the outbreak,

reducing their own chances of being infected. There are caveats to the effective use of social media in an emergency, such as geographic and demographic biases, and possible inaccessibility of social and news media after a natural disaster. Furthermore, evidence suggests that social media is not a replacement for traditional communication models and should therefore be used as a complement to current methods.

Chapter II:

Leadership 2.0 – The Impact of Technology on Leadership

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Leadership 2.0 – The Impact of Technology on Leadership

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Introduction

From Confucius's sage to Plato's philosopher-king, the American and French revolutions, Elizabeth Cady Stanton's Declaration of sentiments to assert the rights of women, and 20th-century leaders Mahatma Gandhi, Nelson Mandela and Martin Luther King, leaders have been individuals who have helped "a group create and achieve shared goals".⁶ But despite over 1,000 studies to define the styles, characteristics or personality traits of great leaders, the field of leadership still remains "curiously unformed".⁷

This toolbox focuses on leadership that involves relationships of power within groups. Leadership is not limited to the position that a leader occupies. A leader does not have to be an individual, but leadership is the power to orient and mobilize others for a purpose. In his 1919 essay *Politics as a Vocation*, Max Weber distinguishes three types of political leadership: the charismatic (the authority of the extraordinary and personal charisma), the traditional (the legitimacy of the authority comes from tradition or custom), and the legal authority (an individual or institution exerts power by virtue of the legal office that they hold). States progress from charismatic authority to traditional authority and finally reach the state of rational-legal authority, which is characteristic of a modern liberal democracy.

Understanding Leadership in Government

Faced with an expanded set of policy imperatives in a complex world, political leaders grapple with immediate challenges – government spending, job creation, tax collection and education improvement – while being pulled into boom-and-bust cycles and staying mindful of electability risks in an environment of declining trust. At the same time, leaders must confront long-term questions: addressing the role of state, dealing with climate change, reversing structural unemployment, and creating growth.

The Impact of Technology on Leadership

Technology has fundamentally changed leadership in the public sector. The most predominant trend is the devolution of power, authority and influence: leaders are in decline and followers are on the rise. Hierarchies are becoming flatter while the gap between leaders and followers is closing, the result of a cultural shift brought about by technology and access to information, ease of expression, and the ability to connect. Political activism is on the rise; never before have citizens been

able to organize, rally, inspire and require change as today. As Joseph S. Nye, Jr. has observed, world politics is no longer the sole province of government. Command-and-control approaches do not work in a hyperconnected world as they block the free flow of information, which is inherently problematic.

The same structural shift and cultural shift are affecting the private sector.

Private sector leaders are not exempt from the public eye. Never before were private sector leaders obliged to align with the interests of stakeholders: employees, shareholders, customers, competitors, activists and society.

Three key aspects of ICT have the potential to transform government and private sector leadership: information technology, big data, and disruptive and exponential technologies.

Information technology

Information technology has permeated all aspects of organizational and individual life. The annual GDP growth from the digital revolution (+3%) will outpace industrial revolutions. More information is created every two days than from years 0 to 2003. In 2011, despite the unfavourable global economic climate, digitization – the mass adoption of digital technology through connected services and devices – provided a \$193 billion boost to world economic outlook and created 6 million jobs globally. IT can help to rebuild leadership in government through these channels:

- **Person:** The distance between leader and follower is reduced through the constant flow of information which comes through social media and the internet. No longer do people in leadership positions have the power to distance themselves from their constituents or claim their privacy. Calls for accountability and ethical and financial conduct are becoming the rule.
- **Position:** The current access to information, the ability to express and the capacity to connect, impact the relationship of leaders and followers more than any other of the

previous information technologies. Information creates power, and people currently have more access to information than ever before.

- **Process:** The information revolution is affecting the structure of organizations. Hierarchies are becoming flat and networks of outsourcing maximize benefits through the effective allocation of resources. In such an environment, the application of soft power tools and the development of contextual intelligence are key. A consensus-building, co-opt and “feminine” leadership style will be necessary if leaders want the buy-in of their followers. A new, open corporate culture, which is based upon participation and self-organization, calls for networking, exchange and transparency.
- **Context:** The information revolution has brought about a dramatic drop in the costs of computing and communication. Communication power is no longer reserved for big corporations or individuals with vast resources. If the same price reduction had occurred in the automotive sector, the price of a car would now be \$5. Moreover, change is

happening exponentially faster than ever before, and governments will have a difficult time reacting.

In the technology era, the volume of information and the complexity in the various channels of communication and transmission make it increasingly hard for governments to identify their audience and tailor their messages and services accordingly. People are represented on the internet with multiple identities, while governments and their leaders try to understand what is real and what is not. These networks reflect both real-world offline interactions and new social networks or connections online. The technological revolution is also changing the leadership industry itself.

In the information era, people are sensing their own power and are expecting to participate; new power is organized and is challenging old power. Atypical counterparts such as NGOs, civil society or terrorist networks use the internet to rally support, maintain a constituent base and organize. The rise of the technological era has provided a platform for the democratization and accessibility of ideas.

Big data

Big data will become a key basis for competition, growth, innovation and consumer surplus. Big data will also result in revolutionary applications, from genomics to business models to security. In the future, business will use data from

social networking and supply chains to tailor products according to consumer needs before they are even created. Policies related to privacy, security, intellectual property and even liability will need to be addressed in a world of

big data. Big data can help to rebuild leadership through the following channels:

- **Results:** Data coming from numerous sources – including historical, video, audio, cell phones, geospatial, imagery,
-

sensors and social media – can be of use to governments in their delivery of services such as crime prevention, transport, defence, national security, revenue management, environmental stewardship and social services. Governments will benefit from leveraging big data information and analytics to increase efficiency.

- **Process:** Rahaf Harfoush, author of *The Decoded Company*, talks about big data as an epic shift that “has led to radically different business models on one hand, but only incremental

management philosophy tinkering on the other”. Big data is no longer expensive to store, analyse and use, yet governments are struggling with how to monetize it. More importantly, governments have been slow to adapt to this shift in management thinking, where data analysis is becoming a tool in setting strategic direction.

- **Context:** At the same time, people and talent are becoming the assets that unlock competitive advantages for the government and the private sector. In his 2012 article, *The End of*

*Capitalism – So What’s Next?*⁸ Klaus Schwab talks about how capital is losing its status as the most important factor of production in the economic system and is being superseded by creativity and the ability to innovate – and, therefore, by human talents. If talent is becoming the decisive competitive factor, it is safe to state that capitalism is being replaced by “talentism”. Just as capital replaced manual trades during the process of industrialization, capital is now giving way to human talent.

Disruptive and exponential technologies

According to the McKinsey Global Institute, there were more than 230 million knowledge workers in 2012, and the potential economic impact by 2025 of automation of knowledge work will be \$5 trillion-\$7 trillion. New technologies are almost automatically called “breakthrough” and “the next big thing”.

Yet, according to the same report, “some technologies do in fact have the potential to disrupt the status quo, alter the way people live and work, rearrange value pools, and lead to entirely new products and services”.

Important technologies can come in any field or emerge from any scientific discipline, but they share four characteristics: high rate of technology change; broad potential scope of impact; large economic value that could be affected; and substantial potential for

disruptive economic impact. Technologies with potential for economic disruption – such as mobile internet, the Internet of Things, cloud computing and advanced robotics – can help rebuild leadership in government through these channels:

- **Process:** The concept of disruptive innovation was first articulated by Harvard business professor Clayton Christensen, who described disruptive innovation as “a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors”.⁹ By breaking seemingly immutable trade-offs, disruptive innovation offers a potentially powerful tool to policy-makers to get

more for less – a way to reduce costs by more than 50%-75% in some instances while maintaining or improving services.

- **Result:** Governments as well as the world’s top enterprises will need to employ exponential technologies and incentivized innovation to dramatically accelerate their business objectives. According to the McKinsey Institute for Government on *Disruptive Technologies*, policy-makers need to prepare for future technology by getting an understanding of how technology will shape global economy and society over the coming decade. Governments will have to allow their citizens to live in a climate of prosperity, safeguard the provision of public goods, and ensure the harmonious delivery of services.

Conclusion and Recommendations

In *The Powers to Lead*, Joseph S. Nye, Jr. lists a few key takeaways related to leadership that could be carried over to public sector leadership:

- The appropriate style of leadership depends on the context. Besides the use of soft and hard power tools, smart power requires contextual intelligence.
- Leaders depend on and are shaped by followers. Soft power is required from the leaders, though charisma is bestowed on the leader by the follower.

- The information revolution and democratization are causing a long-term secular shift in post-modern organizations. From a command style of leadership, society has moved to a consultative, co-opt style that can empower leaders by the concurrent empowering of followers.

Management and leadership are not the same thing. Rather, command, leadership and management are three forms of authority. Effective leaders usually need both managerial and organizational skills to maintain systems and institutions and help groups achieve shared goals.

Case Studies



Venture capitalist Ron Conway attends a San Francisco protest against SOPA legislation. © Reuters / Robert Galbraith

How Technology Can Engage Public Action in Leadership – The Case of PIPA/SOPA

Jimmy Wales

Founder and Chair Emeritus, Board of Trustees Wikimedia Foundation

On 18 January 2012, Wikipedia featured a black banner with the words “Imagine a world without free knowledge”. This banner was part of a 24-hour service blackout against the proposed Stop Online Piracy Act (SOPA) in the United States (US) House of Representatives and the PROTECT IP Act (PIPA) in the US Senate. Following an internet-wide public outcry, this highly visible act was a result of coordinated action by Wikipedia, Google, Twitter, Mozilla and Tumblr and included an awareness-raising campaign against regulation of the internet aimed at forcing a change in the leadership opinion on the bills.

SOPA and PIPA are proposed laws against web and online piracy, aiming to increase the criminalization and punishment of copyright infringement. This would include the unauthorized streaming of

copyrighted content and goods such as films and records, and would also give the government the ability to control and remove websites that infringe property rights.¹⁰ The bills would force search engines such as Google to not display flagged sites in their search results, thus limiting their search function.¹¹ Many feared that the bills would hold other sites such as Facebook liable for showing illicit content that is hard to control and is freely circulated on their sites.¹²

From the onset, concern was raised that the bills would result in measures that would over-regulate the internet and dramatically alter the manner in which information is shared and spread. Many technology industry firms voiced even starker criticism that the bills would disrupt the internet’s culture of free and open sharing of information and knowledge, thus ultimately attacking the freedom of speech and expression.¹³ It was not only the technology and digital experts who were up in opposition but also venture capitalists who argued that the bills would disrupt sponsoring,

support and funding of digital and online start-ups, thus touching on the wider issue of innovation and competitiveness in the American tech industry.¹⁴

These coordinated online actions resulted in collective action globally, with the Google petition collecting over five million signatures from the US, and the SOPA/PIPA Wikipedia page accessed more than 162 million times. The forms on the Senate’s website received so much feedback that the site was unable to accommodate all citizens’ requests for contacting their elected representatives.¹⁵ The day after the blackout, it was reported that the majority in Congress were no longer in favour of the bills, with 18 out of 100 senators withdrawing their support for PIPA.¹⁶ The hearing of the bills was postponed and the legislations shelved.

With special thanks to Artemis Papoutsakis, Team Coordinator, International Relations and Government Affairs, World Economic Forum

The Rise to Power: Social Media, Big Data and the Case of President Barack Obama

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President Barack Obama won two US presidential elections by mounting campaigns that were largely built on the use of sophisticated data technologies and the social media. The 2008 Presidential campaign was seminal in the evolution of technology for campaigns, elections and marketing in general. Immediately following Obama's victory in 2008, the *US News & World Report* declared: "The presidential election of 2008 will go down in history for an obvious symbolic reason that will inspire future generations [...] Obama enjoyed a groundswell of support among, for lack of a better term, the Facebook generation. He will be the first occupant of the White House to have won a presidential election on the Web." *The Washington Post* reported that President Obama raised nearly half a billion dollars online, and research by a Stanford University Professor of Marketing, among others, showed that the Obama campaign garnered more than five million supporters using social media.¹⁷ The vast majority of those supporters were individuals and groups that have traditionally been hard for political campaigns to reach and engage – younger citizens who have historically not voted.

In 2008, the Obama campaign machine set the bar for effective use of online tools and strategies. In 2012, the campaign was able to leverage the online base created in 2008 by picking up right where they had left with the mybarackobama.com virtual campaign centre and its incredibly rich database, and raise the bar further for Obama's re-election campaign. Following his re-election, *The Washington Post* and others dubbed Obama the "Big Data President", aligning the President with one of the key emerging



President Obama attends a meeting at Facebook headquarters, Palo Alto. © Reuters / Jim Young



While visiting Red Cross employees in Washington, President Obama sends his first Tweet. © Reuters / Jonathan Ernst

technology trends of the time. The *Harvard Business Review* called 2012 the first Big Data Election, and the campaign itself was studied in depth by technologists (e.g. MIT Technology Review) and political scientists alike. Obama's big data campaign team was so effective that Eric Schmidt, Chief Executive Officer of Google, invested in it to start a new firm aimed at helping companies increase their bottom line through sophisticated data analytics.

The use of social media and big data in 2008 and 2012 not only helped President Obama win both elections, but, equally importantly, it established a base of

support for Obama to work from and continually engage using new digital technologies. This "empowerment" of regular citizens through technology became a theme not only of the Obama campaigns, but of the Obama administration itself. Especially during his first administration, Obama was successful at connecting with his "Facebook generation" supporters in an ongoing manner.

With special thanks to Rigas Hadzilacos, Research Analyst, Global Research Networks, World Economic Forum



A young girl enjoys a walk in Alice Holt Forest, UK. © Reuters / Eddie Keogh

How Technology is Changing Government Leadership: Saving the Forests in the UK through Technology

Jeremy Heimans
Co-Founder and CEO, Purpose

When Prime Minister David Cameron's government first announced its plans to explore selling publicly owned woodlands in October 2010, the million-member campaigning group 38 Degrees launched an online petition under the headline "Save Our Forests" and garnered over 500,000 signatures.¹⁸ 38 Degrees commissioned a third-party opinion poll, which revealed that 84% of the public preferred preserving public ownership of the forests. The group then purchased advertisements in major newspapers highlighting the poll results and its members logged over 100,000 phone calls and emails to their MPs (Members of Parliament) expressing opposition to the proposed sell-off.¹⁹ In addition, during the 16 February session of Parliament, opposition leader Ed Miliband cited the petition directly in calling for cancellation of the policy.²⁰ Each step of the 38 Degrees campaign was supported by technology that either

did not exist or was not widely available just a few years ago, including:

Online petitions: The initial petition served as the basis for mounting major opposition to the forest sale plan.

Crowd-funding: The public opinion polling was funded through online micro-donations, as were the fees for advertising the poll's results in major national publications.

Automated MP outreach: Calls and emails to MPs were directed via an online action centre that guided individual members of public through finding and reaching relevant decision-makers.

Highly coordinated local efforts: 22 local groups throughout the UK were coordinated quickly and effectively through the use of online organizing techniques and tools.

38 Degrees' work on forest preservation in the UK reflects a broad, growing trend in citizen activism. Across the world, similar stories abound. Walk Free, the movement to end modern slavery, worked to secure approval of ILO Convention 189 in the Philippines by building public support and focusing international pressure on the country's

Senate.²¹ A two-million-plus signature petition in the wake of the shooting of 16-year-old student Malala Yousafzai ushered in the first Right to Education bill in Pakistan.²²

In September 2011, the Office of the President of the United States launched "We the People", a government-curated e-petition website, and promised responses to any petition on its site with support exceeding 100,000 signatures.²³ President Barack Obama's administration has made policy changes on internet privacy, mobile technology and access to publicly funded research in direct response to citizens' petitions on this site.²⁴

And the European Parliament set out a similar promise for the European Union (EU), pledging a response to any "citizens' initiative" organized by citizens of seven member countries and garnering 1,000,000 signatures.²⁵ The EU launched this new foray into responsive government on 16 February 2011 – the very same day Prime Minister David Cameron stood before Parliament to heed the digital voices of his citizens.²⁶

Rwanda: The Nexus between Leadership, ICT and Development

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In 2000, the Government of Rwanda embarked on Vision 2020 – an ambitious development plan to transform Rwanda into a middle-income country driven by a knowledge-based economy. The government identified ICT development as a cross-cutting area which would support the pillars of Vision 2020 in driving socio-economic transformation. To achieve this, the government developed four five-year National Information and Communication Infrastructure (NICI) plans, which coincided with Vision 2020. NICI I (2000-2005) focused on creating a favourable environment for market development by building the required skills set and putting in place institutional and policy structures for future ICT growth. The second phase of NICI (2006-2010) oversaw the development of communications infrastructure nationwide that would serve as the backbone for current and future communications requirements. The third NICI plan, which is ongoing until 2015, aims to leverage progress made in the first two

plans and adopt ICT to improve service delivery. This also includes modernizing the government to improve its efficiency and effectiveness in serving the population.

Under President Paul Kagame, Rwanda has created nationwide coverage of telecommunication networks with mobile penetration at 63% and approximately 6.5 million mobile subscribers, up from 75,000 in 2002.²⁷

Since 2010, the government has focused on modernizing service delivery to improve the efficiency and effectiveness of its operations and reduce barriers to government transactions. More government-to-citizen (G2C) services such as business registration, construction permits, immigration, tax filing and filing of court cases can now be done electronically.

In addition, the government is using technology to change the way it works internally. For example, to enhance coordination, the government has introduced video-conferencing in all 30 districts to improve communication between the local and central authorities as local governments move towards greater autonomy. Other e-government projects that have been deployed to improve the speed and quality of

public processes and operations include e-Parliament, Document Tracking and Workflow Management System, Financial Management System (FMS) and Human Resource Management System (HRMS).

Practical applications of ICT are also being used to drive change in priority sectors. The biggest impact is evident in the health sector where there has been improvement in maternal and child health as a result of the RapidSMS application which allows Community Health Workers to track pregnant women, monitor antenatal care, identify and refer women at risk, and communicate with health facilities in case of emergency. In agriculture, which employs over 70% of Rwanda's population, the mobile application E-Soko has been developed to keep farmers informed about the prices of agricultural produce through mobile phones or the internet.²⁸

Finally, technology is breaking down barriers between leaders and citizens by improving citizens' access to information. Every government institution is online and all ministers and officials can be reached via email, Twitter or Facebook. Citizens nationwide are also given the opportunity to participate in a National Dialogue by sending in live questions through Twitter, Facebook, SMS and video-conferencing.

*With special thanks to **Didier Nkurikiyimfura**, Director General in Charge of ICT, Ministry of Youth and ICT and **Saddiq Mwai**, ICT Advisor, Ministry of Youth and ICT.*



People surf the internet at a free Wi-Fi spot in the capital Kigali.
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Chapter III:

Enhancing Government Services for Citizens in the Digital Age

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Introduction

Over the past two decades, with the rise of the internet, governments around the world have striven to use new and emerging digital technologies in innovative ways to enhance the delivery of public services. Today, digital technologies play an increasingly important role in the daily lives of people and businesses, altering attitudes towards the nature, delivery and providers of public services. Citizens expect to have fast, easy, safe and accurate access anywhere, anytime. The technology that empowers citizens offers ways for governments to improve service design and delivery. They include: open data and big data; embedded technologies and the Internet of Things; integrated and ubiquitous mobility platforms; cloud computing; and next generation networks. However, they also come with risks and challenges that governments need to address.

ICT Transforming the Delivery of Public Services

The scope of public services is constantly evolving and varies from government to government. In any scale or structure, service access and quality should meet key indicators and adhere to key principles: (1) universality – available and affordable for all potential users; (2) equality – all users must have similar benefits and access; (3) continuity and reliability – delivered in an uninterrupted way, with a minimum level of acceptable quality; (4) responsiveness – promptly answer users' needs and requests; and (5) adaptability – allowed to evolve to better serve the general interest. The current and coming waves of relevant technology include:

Cloud computing

Cloud computing allows data and applications to move to the “edge” of networks, enabling standardized mobile and big data solutions, the ability to scale up and down quickly and cost-effectively, and real-time and dynamic services that can be nimbly shaped and modified. Issues including security and compliance need to be addressed to gain public support for expansion.

Open data

The central idea is that certain data should be freely and easily

available to use and re-publish, without restrictions of copyright, patents or other controls.

The rationale is that (1) government data is a public good that should be made available freely and openly to the public; (2) making government data available to the public in open formats increases government transparency and accountability; and (3) open data can enable third parties to use the potential of data by developing applications that address public and private needs.

Big data

The opportunity for governments of all types and sizes to use the explosion of structured and unstructured data to manage and plan for the delivery of services cannot be overstated. Governments worldwide are following the private sector's lead. New York City, for example, created an office of Data Analytics which works across city departments to collect, combine and analyse the mountains of city-generated data, seeking opportunities to enhance or develop new city services and decisions. To seize this opportunity, governments need to develop capabilities and integrate data into decision-making.

The Internet of Things (IoT)

IoT refers to the rise of devices, appliances and accessories – “things” – that are data enabled and computerized, and the

attendant opportunity to connect them all digitally. Google Glass, remote field sensors, smart watches and personal fitness monitors, Wi-Fi-enabled wind turbines, and digitized parking spaces are part of the growing IoT. Gartner, the information technology research and advisory company, predicts that by 2020, IoT will have grown to over 26 billion units. Governments can put IoT to work to better understand demand trends and behaviour.

Mobile first/ubiquitous mobile

Governments can take a “mobile first” approach to prepare data assets and processes to be delivered via any mobile device, at any time. It would enable government services to reach an even larger share of the population, including citizens who currently have limited access due to various hurdles such as distance,

literacy or device deficiencies. The interoperability of digital solutions would be ensured through, for instance, more sophisticated and responsive web design.

Next-generation networks

The rapid growth of open and big data, mobile solutions, IoT, and cloud services, among other technologies, is straining current network capacities and performance across the board, and is driving the development of next-generation (Next-Gen) networks. Next-Gen allows superfast connectivity – hundreds of times faster than current network speeds. Software-defined networks, next-generation Wi-Fi/WiMax, Gigabit Ethernet, and new fibre-optic networks among others are setting the pace for high-speed, high-capacity, and highly intelligent Next-Gen networks.

Governments Can Leverage Technology to Enhance Service Delivery

Access to information and data

The provision of information to citizens and businesses is the most basic form of online government service. A host of data and information can be made available through channels including e-government portals, mobile platforms, public access kiosks and digital signage. The content may include information about services and agencies, reports and forms. For example, the open data portal launched by the State of California in 2010 now has over 100 million data records, ranging from education to state highways. This mode of service delivery does not entail significant interaction between government and users. Nonetheless, it requires effort in terms of transparency, rigour and precision, and usability. It also presumes that citizens will

actively search for this information and find it useful.

Completion of transactions

A more sophisticated set of government services enables citizens and businesses to realize non-financial (e.g. completing and filing forms to receive civil documents or social benefits) and financial (e.g. paying taxes and fines) transactions online, after authenticating their identity. Key components include a tracking system that enables citizens to follow the progress of their requests. This mode involves a greater level of personalization of services and more interactions between government and users. It also generally requires a higher level of personally identifiable information on the user, which necessitates higher levels of

security and authentication and adherence to privacy policies. Citizens play an active role as beneficiaries; governments can benefit if they achieve cost savings in automating more services, and refine and optimize delivery based on end user feedback.

Involvement in the production of services

New digital technologies and platforms create participation and engagement opportunities for citizens who wish to contribute to the delivery of services. Co-production of services can take several forms, including crowdfunding and crowdsourcing. For example, the UK Spacehive crowdfunding platform helps citizens raise money to finance public works improvement projects such as playgrounds, parks and sport facilities.

The Impact of ICT on Delivery of Services: Expectations and Recommendations

Citizens and governments can accrue many benefits from successfully implementing digital enhancements and solutions for service delivery modes. These include:

Streamlined and agile government

Search and transaction costs incurred

by users are reduced for citizens, and governments can expand services to previously underserved citizens. This can contribute to a country's social, territorial and cultural cohesion. Digital solutions also create cost optimization opportunities for the government, for instance by reducing

paper-based communications and storage, or by fighting waste and fraud.

New analysis and decision-making

This calls for analogous reorganization of administrative structures, and, indeed, institutions themselves. Digital modes of

service delivery will encourage information-sharing and coordination between agencies and departments that participate in the delivery of a given service. Citizens could benefit from a clearly identified and intuitive point of contact with government. Digital technologies may also directly shape policy-making and policy content. Taxation could provide evidence of this, as digital collection could trigger significant fiscal system reforms.

Renewed trust in government

By simplifying administrative procedures and implementing organizational transformations, digital service delivery may renew and strengthen relationships between administrations and citizens. It can enable closer scrutiny of government actions and improve the efficiency and fairness of service delivery, fostering an atmosphere of increased transparency and trust.

Strengthened sustainable development

The co-creation of public value can foster competitiveness and inclusion, reinforcing growth and solidarity and contributing to the sustainable development of a country. The power of ICT to involve citizens and businesses as co-producers may entice them to change behaviours in ways that contribute to policy success.

Ingredients for Success

Progress is possible with these key steps:

1. Align with an overarching digital government strategy or plan

A precise diagnostic should be undertaken to assess digital maturity and determine the technologies and platforms to be used. The government can then define a digital roadmap that highlights priorities, details the actions to be conducted, and identifies the institution in charge of coordinating actions and sharing best practices. The government can then deploy the new digital services in two steps: launch pilots to capture and adapt to learnings, then scale broadly.

2. Foster the adoption of the new service delivery modes

Inclusion is the first condition to achieve this goal. Governments may have to invest in infrastructure (such as e-service kiosks in rural locations) and human capital (especially digital literacy). Governments will have to address concerns about privacy and security, which could hinder adoption.

For citizens and businesses to trust digital solutions, governments will have to protect the personal data provided in transactions. Traceability and transparency are essential: citizens must be informed of their rights and allowed to know how their personal data is used and by which institutions.

3. Invest in new capabilities, both human and technological

Digital technologies enable and allow communication among people. Core skills are required to ensure optimal benefit out of the opportunities that technology presents while managing its risks. These include procurement, communication, management, interpretation and use of big data, and realizing the gains of open government. Civil servants must be equipped with these skills and need to learn the basics of what this digital age can do and offer. They need to learn “code”, which is, in a sense, the lingua franca of the digital world.

4. Collaborate between agencies, governments and private entities

Partnerships between stakeholders and user groups are critical to ensure people know how to access new services and are part of co-creating the next evolution. Putting users at the centre of digital services can avoid costly, time-consuming and frustrating errors that often stymie digitization efforts.

5. Ensure the reliability of the new service delivery modes

Governments must strive to maintain a constant level of availability and quality. Citizens must be able to obtain information and rely on fundamental services, even in dire circumstances (in the case of natural disasters, for instance). Governments should also set a standard of continuous improvement.

Conclusion and Recommendations

New digital technologies and the strength of the open data movement are transforming government service delivery and, albeit more slowly, government operations. To sustain this, governments have to carry out a transition strategy with clear objectives and a continuous dialogue with all stakeholders. They need to attract, retain and build in-house capabilities to develop digital service strategies and then implement them. Governments also play a central role in convening stakeholders early and often to ensure that privacy concerns are addressed, and to encourage collaboration among traditional and new actors such as entrepreneurs and IT specialists.

Case Studies

County of Los Angeles Metropolitan Transportation Authority (Metro)

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The LA County Metro is the second largest transportation system in the United States and one of the most complex systems globally. It manages bus, light rail, subway, carpool lanes, bike paths and freeway construction and planning for the entire County of Los Angeles. The agency is undertaking a new strategic planning effort to create a Customer Oriented Technology Investment Strategy, and is launching a number of high-profile pilot projects to show how previously un-mined data sources and digital tools can be utilized to provide better public services.

The pilot projects include:

- Development of a unique GeoSocial interactive mapping system that allows users to provide formal and informal comments on proposed projects via an easy-to-use mapping interface.
- Provision of real-time bus schedule information, as well as Wi-Fi-enabled buses, light rail cars and transit stations.
- Installation of interactive kiosks that combine transit, event and local community information.
- Rollout of a large-scale bus stop inventory management system, developed on an easy-to-use web-based platform that allows for field inventory-taking via tablet computers, integrating GPS data and tools and pulling from a variety of available data sources – including legacy systems.
- Continued digital enhancements of a system-wide fare card to include services and data beyond simply fare payment.



An aerial view of Dubai, featuring the Burj Al Arab hotel.
© Reuters / Jumana El-Heloueh

The Rise of the “Smart” City: Dubai

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Dubai recently launched a Smart City Strategy with the aim of having a single interface for all Dubai government applications, which will work under one name and deliver all services through one unified gateway.

“We are not as much concerned with the number of government applications as the quality, easiness of our government procedures; our goal is to make life simple and easy through effective applications rather than the numerousness of these applications,” noted Sheikh Hamdan bin Mohammed, Crown Prince of Dubai.

The strategy features six key pillars and 100 initiatives, including transport, communications, infrastructure, electricity, economic services and urban planning, among others. Under the strategy, 1,000 government services will go ‘smart’ in the next three years.

Smart City/Smart Mobility Platform: Santa Monica, California

The City of Santa Monica, California, is undertaking an innovative Smart City initiative, aimed at connecting virtually all available data on mobility within the city via a new centralized web database platform.

The new platform will:

- Connect city-owned databases on public transit, parking and public facilities.
- Provide new data and GIS information on bicycle paths, pedestrian routes, bicycle and car-sharing.
- Incorporate third-party data on events, places and activities.
- Integrate user-generated data relating to usage, participation, activities and getting around within the city.

The resultant big data “mashup” will provide new and easily-consumed information and data to the public via web, mobile, tablet, kiosks and digital signage, while also providing a valuable business intelligence and data dashboard for city planners and administrators. The project was funded in part by US federal and state government grants aimed at reducing traffic congestion, increasing the use of public transit and “active transit” (walking and bicycling), and reducing the overall carbon footprint of the city, its residents and visitors.

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Cyclists and pedestrians pass a traffic sign on Santa Monica Boulevard.
© Reuters / Jason Redmond

Open Data, Big Data: China

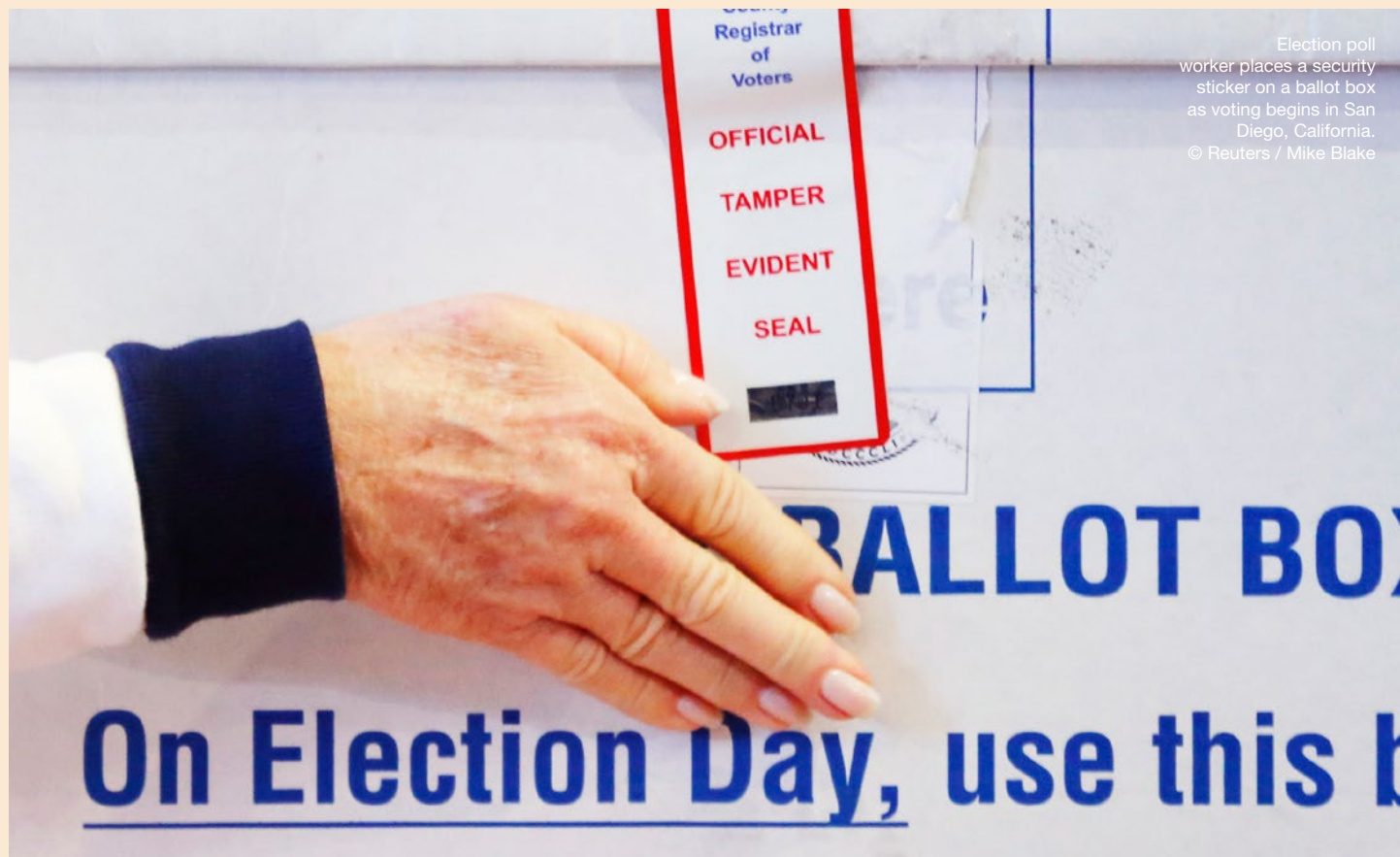
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China's new government has vowed to “shed sunlight” on its activities, and has slowly started down the path of providing open government data on a variety of subjects and

at different levels of operation. These include the Chinese Government Public Information Online portal (<http://govinfo.nlc.gov.cn/>) and the National Bureau of Statistics of China (<http://www.stats.gov.cn/>) at the national level; the Dalian Province data site (<http://www.dl.gov.cn/>); Data Shanghai (<http://www.datashanghai.gov.cn/>); and Data Beijing (<http://www.bjdata.gov.cn/>), among others.

The Chinese government recently launched its first open government platform in Qingdao, a major city in Eastern China with a population of 8.7 million. In addition to providing open data and one-stop access

to public services, the platform is a step towards the city's goal of becoming a Smart City. The platform will be made available to other municipalities across China as well. The municipal government of Chongqing, a major city in central China with a population of 29.4 million, is building what it describes as a big data, cross-border e-commerce platform. The platform's primary purpose is to help businesses in the region better compete in the global market. The government also hopes that it will promote efficiency, enhance the competitiveness of companies in Chongqing, and promote the area as a trading hub.



Moving Services Online: California Online Voter Registration (COVR)

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The California Online Voter Registration (COVR) legislation was passed in 2011 and implemented in October of 2012, just in time for the US presidential elections. The legislation made California only the 12th state (out of 50) in the US that provided for online voter registration at the time. Another six states have passed online voter registration laws over the past year (2012-2013) but have not yet implemented online systems. Californians can now go to the COVR site (<http://registertovote.ca.gov/>) and register, wherever they are.

From a technical standpoint, providing tools for online voter registration is complex. The US voter registration system requires citizens to register through county registrars within each state and has strict privacy requirements. Therefore, the system connecting the Secretary of State's office, the State Department of Motor Vehicles (all registrants need a valid driver's license), and each of the 58 county elections offices had to be developed with strong privacy protections and security procedures. In addition to English, the online registration is made available in nine other languages: Spanish, Chinese, Hindi, Japanese, Khmer, Korean, Tagalog, Thai and Vietnamese. The Secretary of State took the digitization a step further, and provided online gadgets to add easy-to-use voter registration buttons to any website or digital communication (<http://www.sos.ca.gov/elections/bug/bug.htm>). These digital tools helped attract new voters wherever they happened to be on the web. Secretary of State Debra Bowen touted California's work to register more voters as a way to "show the rest of the country how to run a true democracy".

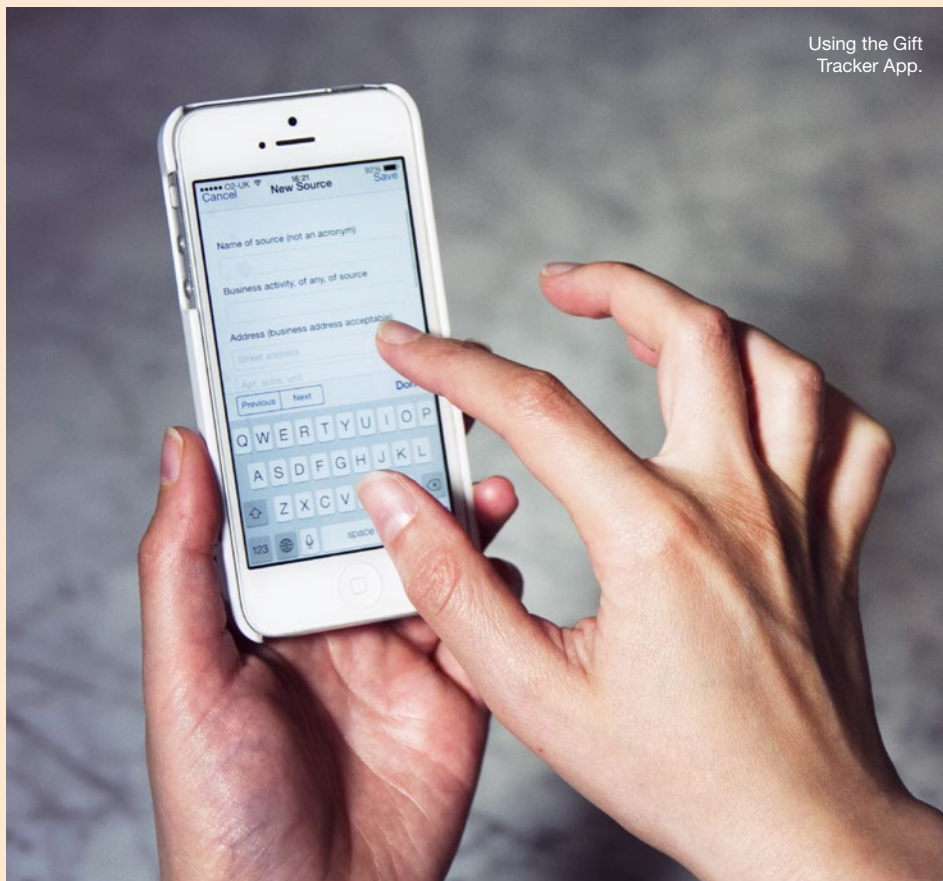
In the year since the online voter registration system went live, over 900,000 Californians have registered for the first time or updated their voter registrations. Additionally, the state estimates it has saved more than \$2.5 million with the online registration system in just its first year. Additionally, and importantly, a study by the University of California, Berkeley, showed that the online registration process resulted in voter registration by a more diverse range of potential voters – including among groups that tend to be under-represented and traditionally register and vote at lower rates.

"Given voters in California are, on average, significantly more affluent than the general population, this study suggests that online voter registration opened up the [...] process to a wider range of voters in terms of their socioeconomic status," said Lisa García Bedolla, author of a UC Berkeley study on the impact of the new online voter registration. "When we make the process easier, like letting you register after you Google it on your phone, folks participate."

California Mobile Disclosure: Gift Tracker

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The California Fair Political Practices Commission (FPPC), a state agency charged with ensuring transparency and fairness in state and local elections, joined the digital movement with the launch of a mobile app that state employees and elected officials can use to easily track and report gifts. The app allows users to input and track the value of all gifts – meals, entertainment, events, travel etc. – from individual sources, and assists in monitoring the allowable amounts and sources according to FPPC rules. The mobile app enables users to export the data for official filings and reports. The Gift Tracker App is currently available for free download in iOS and Android versions at <http://fppc.ca.gov/index.php?id=672>.



California Open Data: California Campaign Finance and Judicial Disclosure Data

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California was one of the first states to launch an open data portal (<http://data.ca.gov/>), following closely behind the launch of the US Federal government's Data.gov open data site. The **Data.ca** site was soft-launched in 2010 and currently has more than 100 million data records. The state plans to continue expanding and enhancing the site to "encourage reuse of government data."

In January 2013, the state launched a companion Open Geo-Data portal, the California Geoportal (<http://portal.gis.ca.gov/>).

[ca.gov/](http://data.ca.gov/)). Following along with the state's open data initiative, in August 2013 the Secretary of State announced that all data collected on campaign financing, lobbying and contributions to political campaigns would be made available online in raw data formats: "The Secretary of State website is always evolving to ensure that everyone, from the occasional user to the information technology expert, can obtain public information in the way most useful to them."

The data is available at the Cal-Access (California Automated Lobbying and Campaign Contribution and Expenditure Search) portal (<http://cal-access.sos.ca.gov/>). Any and all data can be downloaded and used for public, private or even commercial purposes. Although

not particularly elegant from a user experience standpoint, the open data sites and activities are nevertheless starting to create a seamless online data system around elections and voting.

California already had in place Cal-Online, a web-based, data-entry filing system that allows state candidates, campaign committees and lobbying entities to submit registration and disclosure reports mandated by California's Political Reform Act. With Cal-Access, the submitted data is all made available to the public online on a daily basis in near real-time. Continuing the open data activities around elections, this year the California Fair Political Practices Commission launched a searchable online database of official statements of economic interest filings required of California judges (<https://shreddr.captricity.com/.opendata/u/fppc/>). With this first open dataset around public official financial and economic interest disclosure, the FPPC promises to continue to make more data open and available to the public.



Travellers in the Emirates terminal at Dubai International Airport. © Reuters / Jumana El-Heloueh

UAE E-Borders Control

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The UAE e-borders control is an integrated system that manages all access points in the UAE. It has been in operation for over three years now and connects the local ID system to all exit and entry points to the UAE. Exit and entry is now automated via the e-gate system for passport control (based on fingerprint access technology) which also deploys eye-scan and facial recognition systems. In fact, UAE citizens and residents can now travel in and out of the UAE without their physical passport (subject to requirements of their destination).

The system has not only reduced travel times in and out of the UAE, but has considerable impact on improved security. It allows for optimal tracking and monitoring, and caters for dual nationalities. In terms of reducing travel time and improving the experience, this system, coupled with m-boarding passes for air travel, means a resident flying out of the UAE needs to only carry their mobile phone with them. The data on the e-borders control is also fully integrated in a national database linked to the National Identity Card system, allowing citizens and residents to have one card for all their government-related needs and services.

Chapter IV:

The Role of Technology in Political Representation

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The Role of Technology in Political Representation

Jane Fountain

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Introduction

Today, ICT provides new ways for citizens to establish their voice and rights in engaging with government. Cutting-edge public service provision involves citizen participation and co-production of services, for example through online filing to start a new business or apps that enable the reporting of community issues. This trend moves closer to e-democracy: the exercise of citizen voice through electronic channels in political decisions. This chapter explores definitions of political representation, its recent evolution and measurement, ways that ICT changes or can be used to support representation, and the challenges governments need to navigate.

Overview

Representation is defined as a reasonable expectation that a citizen's interests and preferences are considered in policy-making, service design and delivery. It underpins regime stability, legitimacy, accountability, responsiveness and citizen participation, and overlaps with other concepts, including legitimacy, trust and voice. For these reasons, political representation is both a goal and a means of achieving good government and other social outcomes.

"Parliamentary representation" of citizens by elected officials in parliaments and related entities is the norm in representative democracies globally. "Participatory governance" or direct citizen engagement is another form²⁹ that engages citizens in governance, for example through the co-design and co-production of services. Political equality is also critical to democracy and considers "the extent to which citizens have an equal voice in governmental decisions [...] the equal consideration of the preferences and interests of all citizens."³⁰

Discussion of Alternative Approaches to Achieve Representation

Deliberative democracy

In the 1990s, questions of government legitimacy and democratic accountability led to an increase in attention to this approach to empower citizens. Proponents argue that rational deliberation among equal citizens enhances “citizens’ loyalty to [...] constitutional norms” and improves decisions. Yet, even advocates caution that it is only possible when there is “a certain level of cultural common ground”³¹ and that there are many questions – such as who should deliberate, and the feasibility

of information-sharing in this way. Some claim that social media enables participation and representation by the many. Yet, measuring representation in social media use is fraught with difficulties.

Pragmatic representation

A more modest, practical claim focuses on pragmatism where representation can vary based on the policy challenges or political questions at hand. Beth Noveck, director of the Governance Lab at NYU, wrote that traditional government

institutions, operating under assumptions of parliamentary representation, inadvertently create “single points of failure by concentrating decision-making power in the hands of the few”.³² Instead, she posits that citizens can and should contribute to complex policy-making. Results could be more robust and encompass multiple perspectives and contexts. In addition, this process could leverage the expertise that exists in civil society to help solve governance and policy problems.

Recent Trends and Trajectories in Representation

Measurement

Political representation is a complex, multidimensional construct not easily reduced to one scale. Several metrics shed light on this construct from the supply side: the International Institute for Democracy and Electoral Assistance (IDEA) measures direct democracy, electoral justice, gender quotas, voter turnout and other data related to political representation. Many organizations (such as the UN and the World Bank) measure citizen satisfaction with an access

to services such as broadband, mobile phones and social media, but say less about political representation.³³ Some indices have become decoupled from the phenomena they are meant to illuminate, giving an appearance of transparency and democracy at odds with actual practice.³⁴

Participation

There has been a “slow and steady decline” in voter turnout since the 1980s (among democracies, since the 1960s).³⁵

IDEA reports voter apathy globally is most pronounced among youth, high-income earners and diaspora. Yet this period has seen an increase in protests, demonstrations, petitions and other political engagement, and it may be incorrect to conclude that young adults are not interested in politics. They may, in fact, seek greater representation, use new forms of participation, and be more issue-oriented, direct and continual in their engagement.³⁶

Building Political Representation

The factors that influence representation, how government can shape them, and the specific role of ICT are explored next. The exogenous or external factors include developments in ICT, human rights movements, and growth of the diaspora due to labour flows. These are difficult for individual governments to control. The exogenous factors of e-government that influence the degree of representation include:

- Access to interactive communication channels in or for governance (government as a platform)
- Characteristics of interactive communication channels (e.g. one-way, multiparty, moderated)
- Interactivity with representatives and central and local offices (versus social media)
- Government-run challenge sites and other platforms to encourage citizen engagement

- Non-governmental organizations – degree to which such sites are developed outside the government e.g. citizen-generated information (photos, tweets) and watchdog organizations such as OMB Watch or Transparency International

Endogenous, or within-country, factors are subject to change by government leaders. Socio-political dimensions include poor governance; voter distrust; literacy rates; lack of alternatives to the incumbent; exclusion; and political disenfranchisement. Systemic solutions include multiparty systems and coalitions, which encourage participation and turnout.

Key design factors related to voting include access to registration and information; multi-day voting; declaring voting day a public holiday or voting during a weekend;

automation to make voting easier; and election dispute resolution mechanisms.

IT and participatory governance

Many governments have developed structured deliberative practices and platforms to enhance representation. In others, a “bottom up” structure of representation and oversight is emerging. Possibilities for political representation that use ICT range from “thin” (voting) to “thick” (voice) include:

- Voting (e.g. e-voting and online referendums)
- Ranking and rating of a wide variety of political phenomena (e.g. issues, performance, budget priorities)
- Commenting, wikis (e.g. tweets, blogs)
- Deliberating and convening (interest or advocacy groups that might otherwise not have been able to connect or coordinate as easily)

The Impact of Technology on Political Representation in Government

First-generation internet thinking claimed that internet communication would eliminate intermediaries and gatekeepers by empowering average citizens. Some experts expected broader and deeper political engagement would result. But 20 years of experience shows the need for systematic, rigorous examination of potential and actual experience and outcomes. When applied effectively, ICT can broaden and deepen representation in key areas of governance, including:

Information for voters and increased voter turnout

Evidence shows that ICT tools for increasing voter information and turnout can help governments by engaging citizens in civic affairs from local to national, informing citizens' choices among candidates for office, increasing the political participation of youth and other traditionally marginalized groups, and increasing engagement, which will

improve co-production of policies, co-production of government services, and civic responsibility.

Civil society and representation

These groups can help government by using ICT to organize citizen interests and encourage deliberative debate and policy negotiations. They also hold promise to include marginalized citizens, increasing government accountability. When there is a widespread perception that the government is unresponsive, corrupt or unaccountable, citizens are likely to develop alternative means for civic participation. A notable example is the Five Star Movement, Italy's third most popular political party, which uses IT tools and works within parliamentary representation. It was developed to encourage direct representation by citizens and illustrates the potential and hazards of increasing representation through IT.

Open government

Open government is a means by which governments can enhance transparency, accountability, participation and collaboration by making information and processes available to the public. This global "movement" allows the public to monitor, evaluate and engage in co-production of policy and government services, and is increasingly promoted by national leaders. For example, President Obama's first official communication was the Memorandum on Transparency and Open Government. It directed US executive departments and agencies to "offer Americans increased opportunities to participate in policy-making and to provide their government with the benefits of their collective expertise and information". Departments were required to put "information about their operations and decisions online and readily available to the public".

Role of ICT in Representation

Broadly speaking, ICT has two primary influences, often operating in tandem. It enables greater representation (voice) and allows stronger government oversight: surveillance, filtering and control. Getting the balance "right" is a key challenge.

Greater use of IT by governments can increase transparency and responsiveness in several ways. First, IT can strengthen the transparency and visibility of representatives' actions through practices such as televised debates and online "town hall" meetings

with citizens, and by putting the voting records, speeches and other materials of politicians online. Second, IT offers citizens new opportunities for self-representation, user-generated content, and forms of citizen engagement. Similarly, civic technologies provide ways to organize and mobilize citizen interests (such as social protests, online petitions and websites focused on specific issues).

However, there are challenges and risks of ICT to representation. Government can weaken it through a lack of

responsiveness, ossified structures and processes, corruption or retaliatory action, by limiting access to information, blocking or filtering sites, or by limiting access to online channels by certain groups or regions. In some countries, citizens do not reveal their networks on social media sites because they fear government surveillance. Even those governments that intend to strengthen representation through ICT may face difficulty if they have not invested significant time and resources in their planning, strategy and communication effort with citizens.

Conclusion and Recommendations

Political representation lies at the core of government legitimacy, trust and accountability. ICT can broaden and deepen representation in all forms: parliamentary, direct and information based. Yet, leaders must ensure strategies, systems and practices to manage civic participation and promote inclusion, effectiveness, transparency and agency/voice. The following recommendations encapsulate some key findings:

Conclusion and Recommendations (continued)

Plan and invest

Representation is central to legitimacy and trust in government. ICT can advance it, but many governments are not ready for ongoing “e-interaction” with the public. Leaders should develop proactive plans and invest in tools, expertise and management systems.

Connect core institutions

The executive function, parliaments and courts convert citizen interests and preferences into policies. As a government’s key representative institutions, they should have ICT initiatives deeply embedded in the way they operate, and in how citizens can gain access.

Make it inclusive

To increase representation, ICT can increase trust, legitimacy, policy-making effectiveness and governance, but debates must be informed and moderated carefully to ensure that all relevant stakeholders are represented.

Understand real limits

ICT provides many tools for improving representation, but each has costs and benefits that should be weighed and used in concert with other mechanisms. Through an integrated approach, government can increase its voice in policy-making and manage long-term challenges.

Engage rather than restrict

Civil society is likely to use ICT to increase representation when government institutions are perceived to lack responsiveness, legitimacy and trust. Social media and other technologies are unlikely to be fully controlled by governments. A better approach is to assess and understand the likely channels that citizens will use to express their voice and engage with government, and to actively participate in these spaces to be part of the dialogue.

Case Studies



Smartvote

Jane Fountain

Distinguished Professor of Political Science and Public Policy and Director, National Center for Digital Government, University of Massachusetts

The Smartvote app helps voters identify political candidates for office whose views most closely match their own. Known technically as a voting advice application (VAA), the software works by building a prospective voter's profile based on their responses to a comprehensive questionnaire, and comparing it with the records and survey results of individual candidates and parties to find which party's agenda and positions are closest to a voter's preferences.³⁷

Smartvote has been used extensively in state, city and national elections in Switzerland, demonstrating its feasibility and uptake. It was first implemented for the 2003 parliamentary elections and then

used widely during the Swiss national elections in 2007 and 2011. During the 2011 federal election, 1.2 million voters employed Smartvote, whose volume reached nearly 40,000 visitors per day at its peak.

Smartvote began operations in 2003 through the work of a non-partisan, interdisciplinary research network called Politoools, based in Bern, Switzerland. The group is focused on development of web-based tools to inform and promote political participation. This networked model demonstrates the potential of NGOs and public-private partnerships to contribute and manage productive tools to support representation in government.

Tools for increasing voter information and turnout can thus help governments by:

- Engaging citizens in civic affairs from local to national by informing their choices of candidates for office. By the 2007 European parliamentary elections, about 20 different online voting aids were available. This demonstrates dissemination of a best practice and its institutionalization in

political affairs. A related but separate effort, SmartVote, is currently working on voter registration drives and improving electoral participation in Bangalore and Delhi, India, for the 2014 general elections.³⁸

- Increasing participation of youth and traditionally marginalized groups through websites such as MyVote2014.eu, which matches the opinions of young voters with records of Members of European Parliament (MEPs) and parliamentary groups. It is explicitly designed to attract voters between 18 and 35 years of age and first-time voters.
- Increasing other forms of engagement through knowledge sharing, which holds the promise of improving co-production of policies and government services, and enhancing civic responsibility. Newer member states of the European Union have also adopted these tools. For example, the Bern-based non-profit, Politoools, was a consultant for the development of the Bulgarian VAA, called *koimipasva*, in 2005.

Using Communication and Reporting Tools to Increase Civic Engagement: SeeClickFix

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SeeClickFix is a web tool that allows citizens to notify governments of non-emergency problems in neighbourhoods, and then receive a response.³⁹ The tool works in connection with municipal “Open 311,” the open-source, non-emergency telephone services that allow citizens to report municipal issues.

Individuals or citizen groups report problems using mobile phones, so the

information is tagged by date, time and geographic location. Those who report issues such as potholes, graffiti or trash that has not been removed are able to send in photos. The problems reported generate automated messages which are routed to the departments concerned, where they are used to create work orders for municipal departments. The firm has partnered with several software firms including Open311, Cityworks and Microsoft Dynamics to order and map workflows for municipal non-emergency problems.⁴⁰

Originally, SeeClickFix sought to sustain their business with fees from advertising. The basic “widget” for SeeClickFix is free and revenues for partners are generated by selling ads. In January 2011 the firm received \$1.5 million from Omidyar Network and O’Reilly AlphaTech Ventures in equity funding. They quickly progressed to helping cities manage their 311 customer-response systems, an additional source of revenue that ranges from \$1,200 to \$20,000 per year depending upon city size and complexity. In 2011, the firm had about 60 clients, including the US cities of Philadelphia, Washington D.C., New Haven, Hartford, Richmond and Raleigh.⁴¹ By 2013, the web tool was being used in 25,000 towns in the US and other countries including India, Sweden,

Malaysia, Bulgaria, Italy and Greece. The firm claims that once a city has received 6,000 reports of problems, the programme, which costs \$13,000, will have paid for itself. They note that Los Angeles recently paid \$150,000 for a similar proprietary system.

SeeClickFix leaders claim that simple acts of civic engagement such as reporting a pothole and obtaining a response from the government empower citizens and can lead to deeper forms of engagement. Use of SeeClickFix demonstrates that people find their own uses for such technological tools and may use them in surprising ways not envisioned by their developers. Local networks of civically-engaged individuals use SeeClickFix as a platform to coordinate community efforts and to communicate with city governments in a public venue where requests and responses are tracked. The platform has the potential to build trust in the government among citizens, and also vice-versa.⁴²

Online platforms such as SeeClickFix lower the costs to citizens of civic engagement. They provide transparency and clear visualization for resolution of reported problems. The interface encourages citizens, governments, media and community groups to engage together to solve public problems.



Craig Harrison, founder of SOS Roads, poses on a damaged road in Sonoma County, California. © Reuters / Beck Diefenbach

Five Star Movement in Italy – Beppe Grillo and MoVimento

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The Five Star Movement (M5S) is an alternative political party launched in Italy in October 2009 by Beppe Grillo, a comedian and activist, and Gianroberto Casaleggio, a web strategist and former telecom executive. It is currently one of the most powerful political parties in Italy, polling at about 25%.⁴³ The party uses and advocates free access to the internet and direct, participatory e-democracy. In particular, it favours rapid e-voting on issues, replacing more cumbersome referendum processes as well as representative intermediaries. The five stars refer to the movement's central platform: "public water, sustainable transport, development, connectivity and environmentalism."⁴⁴ Grillo runs a hugely successful blog critical of government corruption and, by some accounts, has mastered the tools of digital communication and coordination.

Beginning in 2005, the "friends of Beppe Grillo" responded to an invitation on his blog to organize meetings in their communities to discuss local issues. Grillo campaigned using a series of national gatherings, or "meetups", and his audiences have since been reported to be in the hundreds of thousands. The primary topics involve the environment, mostly reduction of incinerator use. Through these meetings, the movement has developed its guiding principles of direct democratic participation and horizontal organization. Its success reflects the lack of alternatives in Italian politics.

In February 2013, the party won 163 seats in the Italian parliament.⁴⁵ However, in June 2013, the party lost all but two of more



Five Star Movement activist Beppe Grillo appears at a rally in Turin. © Reuters / Giorgio Perottino

than 500 town council elections. It is not clear yet if the party's power is waning due to lack of an institutional structure and productive practices. The lesson here is that digital tools have powerful convening power but do not replace programmatic content and political skill.

The development of the party organization has not kept pace with electoral success. Grillo blogs but the blog is not interactive, and he is not an elected representative. In June 2013 one representative, Adele Gambaro, who differed publicly from the party in a television interview, was subjected to a hearing by 130 M5S MPs, which was live-streamed except for their vote on her expulsion. Marino Mastrangeli,

another M5S senator, was expelled from the party for appearing on television. These tactics, although with grassroots approval, have weakened the party's impact.

Many have speculated that social media and digital technologies are not the sole reason for the success of the Five Star Movement. Rather, disapproval of Italian politics has led voters to search for an alternative. Regardless, the party's grassroots organizing methods demonstrate the strength of coordination and communication through the social media, and the promise and perils of grassroots representation.

Chapter V:

The Impact of Technology on Anti-corruption

Chapter V:

The Impact of Technology on Anti-corruption

Lord Peter Mandelson
Chairman, Global Counsel

What Is Corruption and Why Does Society Need to Fight It?

This toolbox defines corruption⁴⁶ as the misuse or abuse of power of public office for private gain. It can occur at the interface of the public and private sector (individuals or corporations). Examples are when individuals or corporations bribe government officials to gain benefits or avoid costs (money or time), or when government officials seek personal gain.

Corruption benefits a few at the expense of the many and damages three key areas in which the state, citizens and corporations have an interest.

- 1. Corruption undermines the efficiency of government revenue and spending**
Bribes reduce revenues and limit funding available for services. In recent years, the G20 prioritized tax avoidance as a top issue given the extent of the problem and the impact on public sector fiscal health. In procurement, firms that win contracts may not represent the best value for money. They have incentives to cut costs and have less accountability. This can lead to poor-quality infrastructure and services.

For example, the 2008 earthquake in Sichuan province in China killed over 70,000 people. The human toll is attributed to faulty construction from corrupt procurement practices.
- 2. Corruption distorts the distribution of resources within the economy and undermines competitiveness**
In a corrupt system, the firms that win contracts through bribes have unfair advantages and corrupt officials benefit. The problem is exacerbated when public officials are not paid a living wage and rely on bribes to sustain their livelihood.
- 3. Corruption undermines political fairness, safety and inclusion**
It erodes citizens' trust in the government and undermines political legitimacy. It can have the greatest impact on the poor, who are least able to voice their rights. For example, in India, corrupt water management means resources are often depleted before reaching the poorest farmers.

How Can Information and Communication Technology Tackle Corruption?

There are three main root causes – information monopolies, concentration of power, and limited accountability. The common thread connecting them is information control. The proliferation of ICT can reduce corruption by “day lighting” activities and strengthening the voice of citizens.

Dismantling monopolies

Open data dismantles traditional information monopolies by making information available to all. A study by T. B. Anderson⁴⁷ in 2009 found a strong and direct correlation between implementation of e-government

measures and corruption over a 10-year period. The correlation was even stronger than that between corruption and freedom of the press.

Limiting discretion

Technology can limit the discretion of public officials by automating processes such as the distribution of payments and benefits. For example, in 2009 the Afghan National Police began to test paying salaries through mobiles instead of cash. Most policemen assumed they received a raise when they were merely receiving their full pay for the first time. In the past, at least 10% of payments

went to ghost police officers, and middlemen were skimming off the top. Technology also provides platforms for engaging citizens in policy formation.

Enhancing accountability

ICT can enhance the detection of corruption by empowering citizens to hold public service providers to account. A randomized control trial in 50 communities in Uganda found that publishing basic data on the quality of health services and sharing it at meetings empowered citizens to hold service providers accountable and led to improved health outcomes.

What Are Challenges to Using Data and ICT to Combat Corruption?

Data and ICT literacy

Making data available to the public falls short of goals when people are ill-equipped to understand or interpret complex data. “Agents” (such as technologists) and user-friendly websites are needed to access and interpret data and disseminate it to a wide audience.

Mandates

While it is in the public interest for corporations to be mandated to release some forms of data, accounting standards bodies often object that such disclosures are “corporate social responsibility” and should not be subject to standards. Companies have also objected that taxes

in different countries are not comparable. But initiatives such as the Extractive Industries Transparency Initiative (EITI) show it is possible to establish a global standard that is consistent across countries to monitor and reconcile revenues received by government.

Scope

Governments must make careful judgements about what data is regarded as privileged. Protecting personal data has an appropriate bias for confidentiality. Corruption could rise if personal information was not properly secured, making people vulnerable to identity theft or bribes. The opposite is true in

areas such as procurement, royalties, ancillary payments and corporate taxation. Independent agencies and national statistics bodies need to maintain quality and safety standards.

Political risk

When transparency reveals “inconvenient truths”, there can be political risk to individuals and institutions. For example, ELSTAT – the Hellenic Statistical Authority – in Greece was reformed and made independent in the wake of the debt crisis. Its president revolutionized the collection and publication of official statistics, but has been portrayed in the media as a traitor.

Why Should Corporates Support the ICT and Open Data Agenda?

Corporations and public officials are often two sides of the same “corruption coin” – the former paying the bribes and the latter receiving them. But today, the distinction is blurred. Functions traditionally in the public sector are often outsourced to the private sector and governments have larger stakes in previously private sectors. Corporations can gain in the short and long term from open data and ICT:

- **Clearer understanding of the economies in which they operate:** Helps to refine the business model to maximize efficiency and impact
- **Level procurement playing field:** Protects market competitiveness, limits rent-seeking
- **More scientific method to calculate risk and detect and deter fraud:** Improves decision-making, minimizes risks and unearths valuable insights that would otherwise remain hidden
- **Synergy when government and corporates work together:** Creates new insights to better address specific needs of various segments of the population

Conclusion and Recommendations

Corruption can be combated by opening up information and decision-making to as many people as possible

Open data is a powerful tool to disrupt the monopoly, discretion, and lack of accountability on which corrupt systems depend. From the United States to Japan, China to Kenya, more and more governments around the world are joining the open data initiative. There is strong evidence to back up the idea that more open data results in less corruption.

For better government, the “openness” of data is more important than size

Globally, more data is being generated every day. The volume is overwhelming – HM Revenue & Customs in the United Kingdom reportedly holds over 80 times more data than the British Library.⁴⁸ But the size of the data is irrelevant unless it can be used. Governments and corporations need to ensure that the data they publish is accessible, readable, manipulable and interoperable.

Data activists are agents for transparency, accountability and change

From citizen app programmers in Silicon Valley to the NGOs and local community activists in Uganda, data activists are vital agents in the open data revolution. They need to be recognized, empowered and protected.

Technology will inevitably lead to policy change, but it needs to be change in the right direction

The Greek case study illustrates the political risks attached to exposing or insisting on publishing certain data. Commitment to transparency can sometimes come at a price, but policy-makers need to position themselves on the right side.

Government and the private sector must work together for mutual gain

Policy-makers should meet with industry representatives to discuss the terms on which such data could be made available to each other. Once a decision is reached, the public will need to be made aware of any initiative and encouraged to see the benefits of being included in the initiative.

Case Studies



A phone depicts an image from the trial of disgraced politician Bo Xilai. © Reuters / Jason Lee

E-Governance in China – The Fight Against Corruption

Gregory G. Curtin
Founder,
Civic Resource Group

The new regime that assumed power in China in 2012 promised to be more open, and specifically to shed “sunshine” on government activities and processes. The 18th National Congress of the ruling Communist Party of China, held in November of 2012, highlighted the urgency and significance of fighting corruption. Xi Jinping, the newly elected party chief, said in his first public speech after the congress that the party must solve problems such as corruption and bureaucracy, and has repeatedly warned since then that corruption could lead to “the collapse of the party and the downfall

of the state”. China clearly has a long way to go in establishing open and transparent processes necessary to truly shed “sunshine” on Chinese government and society, but in just the past two years there have been a number of important, and hopeful, technology-related trends that have bolstered anti-corruption efforts.

The use of the internet and digital platforms in China has exploded. Over the past few years, a number of citizen and civil society organization-supported websites focusing on corruption and malfeasance in government and business have come

into being. These turn the spotlight on everything from illegal polluters to the daily activities of Communist Party officials. More recently, the rise of social media and especially microblogging on the Weibo platform (China's version of Twitter) has afforded citizen whistle-blowers a new and increasingly effective tool to expose misdeeds, ranging from government and corporate misconduct to simple bureaucratic inefficiencies. With more than 500 million Weibo users, the Xinhua News Agency reported that "the miraculous microblogs have become the nightmare of the corrupted".

Explosion of Official Government Microblogs: By the end of 2012, the number of official government accounts on the four major Weibo microblogging platforms in China – Sina, Tencent, People's Daily Online and Xinhuanet – had skyrocketed to over 175,000, an increase of nearly 250% in just two years. These accounts have been created and used by a broad range of officials and governmental organs, from individual party officials to government agencies, from courts to local party committees, to interact with the public. A timely example has been the publication on the official Jinan court microblog account of the official transcripts – albeit redacted in many cases – of the high-profile Bo Xilai corruption trial. The resultant increase in interaction between the Chinese government and its citizens, although just in its infancy and not yet well documented or researched, is no doubt building new levels of openness, transparency and trust, all of which are keys to fighting corruption.

Official Anti-Corruption Digital Platforms: Two new milestones were reached in the Chinese anti-corruption environment in August 2013 when the Communist Party's Central Commission for Discipline Inspection (CCDI) and the Ministry of Supervision launched a website for the public to report corruption (<http://www.ccdi.gov.cn>). This followed the rapid expansion of official government websites, the overall increase in government information accessible at those websites, the exponential growth of microblogger accounts for governments and government officials, and the emergence previously of private websites and microblogger accounts focused on corruption and malfeasance. The site, which supplants a non-interactive

and more general informational site launched by the government in 2009, serves as a central repository of anti-corruption news and resources, and provides interactive tools to allow the public, either anonymously or openly, to report allegations of corruption. At the local level, the prosecutor's office of Chongqing has launched an anti-corruption smartphone application named "Staying away from duty-related crimes", aimed at encouraging whistle-blowing against corrupt officials.

Big Data, Open Data: Although there is not yet a national open data initiative in China similar to those seen in western nations such as the United States, a number of official government data sites have sprung up at all levels of government. These include the Chinese Government Public Information Online portal (<http://govinfo.nlc.gov.cn/>) and the National Bureau of Statistics of China (<http://www.stats.gov.cn/>) at the national level; the Dalian Province data site (<http://www.dl.gov.cn/>); Data Shanghai (<http://www.datashanghai.gov.cn/>); and Data Beijing (<http://www.bjdata.gov.cn/>), among others. In terms of open data to fight corruption, the government has also recently suggested, for example, the setting up of a national real estate ownership registration database. Still, as reported in China's Global Times, so far only 40 Chinese cities have pooled their real estate ownership registration databases.

Transparency, Openness and Anti-Corruption in Research and Conferences: A strong signal that digital progress is helping drive China's fight against corruption can be seen in the open inclusion of the theme in high-profile research, and at conferences. A clear example is the 6th Annual China Summit on Anti-Corruption, held in Shanghai in June 2013, in which one of the key themes was "Mining Social Media as a Compliance Resource: How to Detect Bribery Indicators". In another example, in 2012 the government of Hanzhou, China, invited Good Governance International (GGI), a non-profit organization dedicated to promoting good governance around the world, to help assess the province's e-governance through the use of new technologies. Hangzhou Municipality has developed a vision for supporting the use of new technologies to help improve "democracy and livelihood". The project and its result, the China eGovernment Development Index (CEDI), were well-received by both the municipal government and the Chinese central government at a December 2012 international conference on "Chinese Rule of Law: E-Government and the Rule of Law." One of the key objectives of the CEDI is to educate "officials on best practices for using e-government to increase government transparency and encourage public participation". The government has invited Good Governance International to expand its assessments and provide e-governance training to government officials.



A woman at a subway station in Beijing looks at an advertisement for Weibo. © Reuters / China Daily

Open Government Data Strategy (OGDS) in Japan

Larry Stone

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Launched in mid-2012, the Open Government Data Strategy predates the rollout of “Abenomics”, but is consistent with and supportive of its overall thrust – to drive a judicious mix of financial and fiscal discipline and flexibility, while implementing economic and structural reforms allied to an outward-looking approach, enabling new trading partnerships such as the Trans-Pacific Partnership (TPP) and the EU-Japan economic partnership agreement (EPA).

The strategy enables Japanese government sponsorship – via the Ministry of Economy, Trade and Industry (METI) – of burgeoning big data markets and applications. Since May 2013, a pan-government Chief Information Officer has been charged with drawing together information and communications technology (ICT) systems, e-government services and procurement policies and practices across government departments – much in the same way as in Australia, the EU, the United Kingdom, France and the USA.

The need to reinforce Japan’s position as “a world-leading IT nation” powers Prime Minister Shinzo Abe’s growth “arrow”. The government predicts that the market for big data services would be ¥7.7 trillion (\$82 billion) by 2020. It has allocated ¥13.2 billion (\$140 million) for big data R&D, including projects to develop a new, 400 Gbps (gigabit per second) hi-speed network and test-bed, a high-availability and high-efficiency data centre operating system, and data analysis applications. Linked to this, the government aims to revitalize the Japanese economy by promoting the use of public data stored in administrative agencies via the OGDS. This also means that Japan will need to reassess data protection and consumer protection laws and standards, including emerging best practices around the world.



Participants from government ministries take part in the Cyber Defense Exercise with Recurrence, Tokyo. © Reuters / Toru Hanai

The purpose of the OGDS was set out in June 2012 as to “undertake measures for encouraging the use of public data and to implement them broadly to raise the standard of living and invigorate business activities...” A high-level steering committee (the Open Data Committee, *jitsumu sha kaigi*) would oversee the work including looking at international benchmarks. The objectives included:

- Allowing secondary use of data to facilitate independent analysis to enhance transparency in government and to build public confidence.
- Promoting public-private collaboration in the provision and enhanced efficiency of public services and to support the creation of new services using government data.
- Creating new businesses and greater intra-corporate efficiencies.
- Build on existing e-government strategies.

The strategy factored in support from new technologies such as expanded cloud services, analysis of big data, and use of external social media and internet

engines for information dissemination by ministries. Trials, including the need for public data, would be overseen by the Ministry of Internal Affairs and Communications (MIC) and METI. In parallel, the Cabinet Office and MIC would organize a survey of public data provided mainly at database level. Service development “contests” by private entities would be encouraged using, for example, mapping, topological, census, land use and other data. A working group would look at policy and legal safeguards involving copyright, access, confidentiality, data privacy, data catalogues (collecting metadata), and the standardization of data formats and structures. A government portal site would be established.

Government updates in mid-2013 found progress on a number of markers – rules of secondary provider use; directions on how to publicize data in format(s) that enable computer processing and editing; and direction on publicizing data via the internet. Japan hopes to attain the world’s best standard in data provision by 2015.

B20 Collective Action Hub – Basel Institute on Governance, International Centre for Collective Action

Gretta Fenner

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Context

As anti-corruption has risen on the agendas of policymakers and law enforcement, and companies face enhanced regulatory risks and seek ways to reduce these, interest in collective action as a means to combat corruption has increased considerably.

Collective action is a significant method for companies and other stakeholders to apply in their efforts to counter corruption. By bringing together like-minded actors through a process of sustained cooperation and commitment, collective action can help companies escape the dilemma posed by corruption, levelling the playing field between competitors and improving the wider business environment.

B20 Collective Action Hub

In 2013, through a competitive tender process, the Basel Institute on Governance's International Centre for Collective Action (ICCA) was mandated by the B20 to develop and maintain the B20 Collective Action Hub, in partnership with the UN Global Compact and the ICCA's institutional partners. This dynamic and interactive platform harnesses many of the advantages offered by web-based technologies, through its unparalleled collection and diffusion of knowledge on collective action, bringing together interested stakeholders.

A repository of collective action initiatives and information

As part of its services, the B20 Collective Action Hub offers a central web-based platform whereby companies and other stakeholders can find information on existing collective action initiatives. Through a comprehensive and structured database, users can search by key characteristics such as type of collective action initiative, geographic scope and sector(s). As part of its knowledge-sharing mandate, the Hub also provides access to recent publications and research on the topic of collective action and anti-corruption in general, published by the ICCA and its partners, as well as other key stakeholders.

In addition, through the ICCA's network of partners and its own in-house IT developers, the Hub features a number of IT tools for companies seeking to construct anti-corruption compliance programs, conduct risk assessments, and to better train and equip their staff when facing compliance risks in their business operations. These tools can also assist companies and other stakeholders in identifying opportunities for potential collective action initiatives.

Collective action initiatives facilitation

Information technology advances provide means by which actors have increased ease of access to information

and finding compatible parties in their efforts to tackle corruption. The Hub's web-based platform capitalises on this by serving as a facilitator for organizations seeking partners or assistance in starting their own collective action initiatives. Public IT-based forums provide a method for the announcement of existing collective action needs. The Hub also includes an option for organizations to upload information on their existing or nascent collective action initiatives and thus seek other partners to engage in this initiative.

Virtual forums, policy dialogue and peer-learning

As the Hub's network continues to grow the ICCA, including through the B20 Hub's web platform, will continue to play the role of broker between existing and new, likeminded or similarly oriented initiatives so as to facilitate peer learning. Virtual forums for policy dialogue among key collective action stakeholders will play an increasingly significant role in this regard. In addition, the B20 Collective Action Hub platform will feature a secure members-only interface, to enable access to and sharing of potentially confidential information among members of a collective action initiative.

More information:
<http://www.collective-action.com>

Chapter VI:

Governance Solutions to Overcoming Stovepiping and Silos

Chapter VI:

Governance Solutions to Overcoming Stovepiping and Silos

Rolf Alter

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Introduction

The global economic and financial crisis, climate change, an ageing population, health and natural-disaster emergencies, and heightened citizen expectations for public services are some examples of circumstances requiring policy responses that do not fit neatly into any one organization's competencies. Good policy and government programmes now depend on joint action where administrations work in a coordinated and collaborative manner across boundaries, sometimes across jurisdictions, and often across levels of government. However, current government structures and policy toolboxes have not kept pace with this growing complexity, leaving governments ill-prepared and struggling in a new operating environment.

Innovations are needed as much in the way governments work as with the policies that they choose. In an open policy environment – with access to social media, smartphones and connected citizens – government can draw from innovative pathways for consensus-building and sharing diagnostics and policy options. ICT can help but should not be seen as the single solution or without risk. Better,

more integrated governance starts from basic steps and a review of the traditional systems of the state – including budgeting, human resource management, auditing and evaluation. Particular attention will need to be paid to contributions from civil society. The third sector is becoming a committed player in some countries, even if accountability and risk-sharing remain critical issues.

Beyond ICT, the following elements are key to promoting a strategic vision and agility: leadership at the political and administrative level; linking ministries, sectoral policies and central strategy; identifying long-term goals and strategic planning; connecting strategic planning and budget management; and awareness of emerging issues, risk anticipation and management.

Adopting a Whole-of-Government Approach, with a Push from the Centre

“Joined-up government” or “whole-of-government” is a way for government to integrate cross-disciplinary perspectives into policy, improve coordination and facilitate resource-sharing. It is a prerequisite to the successful use of ICT-led information exchange or coordination systems. This goal can be achieved in a number of ways. Formal agreements among government

bodies are used to articulate the government's expectations for its horizontal priorities, and establish the roles and responsibilities of the relevant actors (for example ministries, agencies and levels of government). Some countries strengthen informal networks and encourage a culture of cooperation and exchange. ICT can advance this through virtual communication options, safe and fast

data integration, and piloting initiatives that can quickly be shared and scaled.

Governments pursuing a whole-of-government approach face challenges – for example, how to adapt roles and responsibilities to strengthen connections, train staff on the new approach and tell the public about the changes to generate

support and encourage new ways of interacting with government. Delivery units established at centres of government have become a well-known strategy, combining vision with monitoring of implementation.

Despite the push from the centre, the issue of policy fragmentation and the effects of silos in the public sector represent one of the greatest hurdles to

policy design and implementation in the public sector. In this context, countries have developed mechanisms for coordination and horizontal cooperation. However, the reforms introduced through the new public management and the setting up of agencies have often had some impact in the other direction, increasing fragmentation. That is why understanding incentives that underpin cooperation is critical. The economic literature identifies

a range of options to facilitate the interaction among economic agents, but the public sector lacks monetary incentives. The recent Governments for the Future (2013) project notes that it is essential to present both short- and long-term gains to senior public officials as an incentive to cooperate, drawing on experience from Finland, Sweden, Austria and the United Kingdom. Performance reviews can help to align staff to these goals.

Open Government: A Strong Impulse for Coordination across Government

The recent move to open government has provided extra momentum for reducing silos. Openness and transparency are at the heart of good governance and are rapidly transforming how governments work internally and with citizens. Stronger citizen voices provide an impulse for the government to examine its internal processes.

Key dimensions of open government

The shift to open government provides an important incentive for the public administration to enhance its performance. Citizens and business are more able to examine the outcomes from public policy, comment on failures and poor performance and encourage the government to improve. Over time, this is becoming an important force for reform and modernization in the public sector. Through web-based platforms and user-friendly data and information tools, governments can promote an “ecosystem” of diverse actors engaged in public policy implementation and evaluation of outcomes. At the policy development and implementation stages, there are an increasing number of initiatives that use crowdsourcing to generate new ideas for (or improvements to) public policies.

Shared services

To reduce silos and increase coherence, many countries are creating common ICT platforms or shared services for use by all agencies. One way to break down silos is to develop new architectures or packages of services that are complex and extend beyond the limits of a single ministry or

agency. Government can take a customer perspective to understand how services should be connected for the end user’s benefit.

Civil servant empowerment and coordination

Opening up government data can enable civil servants, including frontline professionals, to participate directly in ensuring that the government is coherent and participative, and to develop applications that better respond to users’ needs. Many civil servants see the real-time performance and impact of public services and public policies on citizens, and would be able to generate appropriate data and other inputs, or use available ones, to improve service experience if they were given the tools and incentives to do so.

For civil servants to use ICT to achieve this goal, they need the right skills, tools, mechanisms and guidelines. Overall, this should include data science; predictive analytics to identify patterns and create models; knowledge of Web 2.0 technologies for social engagement; and a finer understanding of emerging problems and of the use of IT to solve them (e.g. cybercrime investigation).

Staff mobility is also critical to breaking down silos and to broadening the skills, experiences and mindsets of public sector employees. It enables people to share ways of working, develop collegiate working relationships, “learn by doing”, and have a sense of opportunities within government (rather than needing to leave to advance/change careers).

Enhanced coordination and collaboration through social media

Government departments across member states of the Organisation for Economic Co-operation and Development (OECD) are beginning to use social media to crowdsource information and input. It can strengthen integrated policy development by revealing preferences, gauging support for particular actions and canvassing for ideas or suggestions. Across the OECD, over 10% of the population has been involved in an online government survey or voting exercise – unimaginable before the internet age.

In addition, the public demand for information and ease of access through social media has increased governments’ interest in coordinating messages. In some cases, centralized systems are helping to align messages and synchronize initiatives to maximize impact. Accordingly, many governments develop a collective approach to communications, generally giving the prime minister or president the overarching responsibility for ensuring that the public is informed about the work of the government.

However, many social media opportunities to support multi-channel delivery exist at subnational levels of government. Local authorities are often the primary interface between citizens and the state and are typically subject to tight budgets. Cross-disciplinary social initiatives, coupled with trends such as open government data and the advance of “smart” devices, are leading to a great amount of local service delivery innovation.

Opening up the Functioning of Government Is a Global Concern

Emerging economies are increasingly aware that to promote investment, retain talent and maintain social cohesion, governments need to be more open and accountable to citizens and have higher-performing public administrations. They are forging ahead with efforts to use technology to join up government action and bring citizens and government closer together. The Open Government Partnership, which now includes 63 countries, is one means by which good practice in opening government can be shared across countries, with important implications for the functioning of governments and the relations with business and citizens.

Coordination can retain or rebuild citizens' trust, if managed properly. The diffusion of cross-department, internet-based systems and services is changing the landscape of security threats. Governments today are assessing and managing risks that are amplified by technological trends such as cloud computing, cross-border data flows, and the use of social networks. Citizens are unlikely to interact with governments through online channels without confidence that their privacy is protected and their information is securely processed. This can be a significant barrier to fully capturing the benefits of new-generation, joined-up government

services. This is particularly important for the growing number of government services that are facilitated by digital identities, single sign-on or other digital identification, authentication and control mechanisms.

Coordinating these dimensions across departments is a challenge. Weak links can be exploited by those wishing to misuse government-held data, and failures can lead to reluctance to share data and services. To earn the right to collect and disseminate data, the government has to prove that it can manage it effectively.

Conclusion and Recommendations

Collaboration, coordination and horizontality in government operations and service delivery are “musts” in today's world. They are facilitated by the rapidly expanding potential of technology and critical changes in society and the policy environment. However, rather than mechanistic, linear pathways to overcoming silos and stovepiping, a combination of strategy, people and technology must be pursued. Strong leadership, effective monitoring and well-defined accountability of actors and stakeholders are the critical requirements for performing changes across sectors, levels of government, and jurisdictions. Encouraging examples of innovation must be shared to favour the emergence of a culture of continuous improvement. Trust in government by citizens and business will be the ultimate sign of success.

Case Studies

“Linea Amica” – Multichannel Innovation for Integrated Service Delivery

Rolf Alter

Director, Public Governance and Territorial Development, OECD

Linea Amica (“Friendly Helpline”) is an initiative launched in January 2009 by the Italian Ministry of Public Administration and Innovation. The initiative brings together the Department for Public Administration as the funding agency; the Department for Digitization and Technological Innovation as the technological know-how provider; administrative innovation institute Formez PA as in charge of implementation; and Agenzia per l’Italia Digitale, a governmental authority mandated to improve digital administration. The project was initially part of an overall plan for reform of public administration (the Brunetta Reform), which focused on increasing the efficiency and agility of Italian public administration. The project has been fully funded by the Italian Ministry for Public Administration for an amount of €2.8 million (\$3.88 million) per year to cover expenses for staff, ICT and telephone bills.

Linea Amica aims to support a strategy for integrated service delivery. It provides a single point of access for all citizens reaching out to the public administration to receive information about services, or to be helped in addressing specific problems. The goal is to improve service delivery, communication and interaction between the public sector and the citizens by using ICT to break down silos, facilitate collaboration across levels of the administration, and create new ways to produce, manage and access knowledge. This initiative has had an important impact on the way citizens interact with the public sector, which is a key step towards improving public trust in governments.

The initiative has improved:

Delivery and accessibility:

Linea Amica operates through 100 operators in the back office and an equal

number in the front office. The front office provides immediate answers to the requests received (via telephone or through the portal) while the back office addresses more complex requests which require research or interaction with local administrations.

A single platform has been created to integrate the databases of over 1,250 public institutions (e.g. social security institutes like the INPS, the Revenue Agency, the municipalities of Rome and Milan, the Health Reservation Desk of Lazio and Emilia Romagna regions, and various ministries, regions and local authorities). This federated system of databases is the largest European customer-relations network and knowledge repository.

A network of multichannel points of contact at the local administration level has been established to support the operators. This network saw the participation of 695 different institutions in 2009, which increased to 1,250 in 2013. The challenge is to increase the number further to cover the entire country. These institutions team up with Linea Amica operators whenever they do not know how to address a specific matter. The network has received over 60 million contacts per year since 2009, of which 50 million have come through Linea Amica operators.

The contacts managed directly by Linea Amica increased by 23% between 2009 and 2012. In four years, there has been an 18.5% increase in the requests for assistance received by Linea Amica operators that did not require reaching out to the back office or to the relevant administration in the network. The higher level of preparedness of the Linea Amica operators probably determined the increase, which was also made possible by the wealth of common knowledge in the repository. This capacity to provide a response at first contact has increased the speed of response: the time for requests handled by the front or back office has gone from an average of 8 hours and 37 minutes in 2009 to two hours and 51 minutes in 2011. This is an important indicator of the efficiency of the service.

Transparency and public engagement:

More transparency and easier access to information on public services are enabled through the constant effort to keep up-to-date and extend the supporting knowledge repository used to address public requests. This is done also through the FAQs (frequently asked questions) elaborated by the users of Linea Amica, or thanks to feedback from Linea Amica operators.



Italian politician Renato Brunetta leaves Grazioli palace in Rome.
© Reuters / Tony Gentile

The most critical challenge in this sense appears to be moving towards the complete automation of the supporting knowledge base. The idea is also to improve the portal not only to lighten the workload of the back office, but to facilitate public access to service information and interaction with citizens (e.g. to enable them to provide feedback easily).

Linea Amica provides a number of opportunities for active public engagement through the use of new technologies like mobile and social media platforms. Citizens can use the portal or smartphones to provide feedback on the quality of public services (e.g. by choosing emoticons to evaluate service quality) and put forward suggestions to reduce bureaucratic burden and improve service delivery. The idea is also to use citizens' feedback to map needs and reasons for dissatisfaction, which can help standardize interventions for similar types of recurring problems in public interaction and service delivery.

Responsiveness:

Responses and services are more targeted to citizens' needs thanks to easier access to up-to-date and relevant information as well as better knowledge of users' needs, both enabled by a higher level of digitization. Use of a citizen-centred logic brings services "closer to users" and makes them friendlier. Operators are trained to create a service delivery culture built on the importance of listening to citizens, showing professional courtesy and solving problems quickly. The level of users' satisfaction with the front line has reached 91% of the feedback provided. The service has been extended and diversified to include Linea Amica Immigration, Linea Amica Health, assistance for public exams and assistance in the use of certified mail.

The success of this initiative is measured by the increasing level of citizens' satisfaction and by the growing uptake

of the services provided. Factors for success include the fact that in fostering innovative service delivery the initiative concentrated on overcoming inadequacies specific to the Italian public administration context. Hence, it directed attention on improving interactions between the public administration and the citizens and on nurturing new forms of collaboration across levels of government. More than concentrating on the technological solutions to be deployed, the developers of this project focused on cultivating cultural changes in the public sector to create a new culture of service delivery, one oriented to users' satisfaction and enabled by better collaboration and knowledge management.

Source: "Delivering Public Sector Performance and Innovation through Information and Communication Technologies," OECD E-Government Project.

The Role and Practices of National Statistical Agencies – Greece and the EU

Orsalia Kalantzopoulos

Secretary-General, Black Sea Trade and Development Bank



People enter a Greek Manpower Employment Organisation office in Athens. © Reuters / Yorgos Karahalios

In late 2009, all warnings were clear: Greece was spiralling out of control. Also in late 2009, figures released by the EU's statistical agency, Eurostat, suggested that the country's economic data had been manipulated to make the situation look better than it was. Just months later, in early 2010, at a meeting in Brussels, Prime Minister George Papandreou disclosed that under the previous government, the country had manipulated official statistics and the size of its fiscal deficit and trade imbalances. He said the fiscal deficit amounted to 12% of GDP, not 6%, as the government had maintained previously and the Greek Statistical Office had reported and confirmed. As a result, the 2009 budget deficit was adjusted from 3.7% to 12.5% of GDP, and was eventually raised to 15.8% of GDP.

This was the second time Greece was revising its national income data to allow for more government spending and external borrowing. First revisions, in favour of the then newly-elected government, were introduced in 2004.

Since that year Eurostat had sent 10 delegations to Athens with a view to improving the reliability of Greek data, but to no avail – it had no powers to investigate

whether the government was accurately reporting data on its debt, deficits and national income accounts. Yet there were clear signs on the horizon. In mid-2009, a draft International Monetary Fund (IMF) report on Greece pointed out data inconsistencies but was edited to play down the risks that Greece's debt was unsustainable, bond spreads were widening and the country was heading towards a default. In January 2010, Eurostat issued a damning report which contained examples of falsified data and political interference.

To avoid default and exodus from the euro, in 2010, Greece resorted to borrowing from the IMF, EU and European Commercial Bank (ECB). Borrowing from the "Troika" came with strict conditionality and enhanced supervision. One of the initial reforms imposed by the lenders was complete restructuring of the national statistical office.

ELSTAT – the Hellenic Statistical Authority – was created as an independent and

autonomous authority to deal with the collection of data on behalf of the state. (Prior to 2010, the Greek statistical office was a non-autonomous service under the Ministry of Finance.) A well-respected former IMF official returned to Athens in 2010 to head ELSTAT.

In parallel, in June 2010, Eurostat officials were given enhanced powers and responsibilities. Eurostat was given the right to examine data on execution of national budgets from every level of government. They were also given the right to see the accounts of extra-budgetary bodies, corporations, non-profit institutions and other similar bodies that are part of the general government sector, as well as to send officials to national capitals to investigate whether governments were reporting figures accurately. The EU's statistical office, in addition to independence, got audit powers over member states' finances.

Eurostat and the IMF now have access to reliable data on Greece, and recent ELSTAT six-monthly reports have received the green light from Eurostat, which translates to an administrative revolution.

However, the attitudes of Greece's former officials, the dynamics across the political spectrum, and the apathy of civil society reflect firm resistance to reform and fear of change. The president of ELSTAT is accused of treason, and no politicians want to see him or defend him publicly.

Nevertheless, the positive changes in ELSTAT and the quality of Greek official statistics are recognized by members of the European Statistical System committee, the director general of Eurostat, and the Royal Statistical Society. Recognition has already come from outside Greece and trust in the country and its budget data is increasing.

Advancing Interoperability with X-Road – Estonia

Dmitry Zhdankin
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Since its introduction in 2002 by the Estonian Information System Authority, X-Road has established itself as a robust framework of data exchange between the state's information systems. Having achieved considerable success in advancing interoperability within Estonia, X-Road is also expanding across the European Union.

X-Road came about as Estonian authorities recognized that improving information-sharing across government agencies could yield significant gains in efficiency. While

Estonian authorities considered several options for enabling communication between various databases, X-Road emerged as the most secure and cost-effective solution. X-Road creates a multilateral connection among multiple servers, in which no single server holds all of the data. This approach alleviates the high costs associated with a system of bilateral connections, while also significantly reducing the risks associated with aggregating data in a single hub.

Since its official launch in 2002, X-Road has successfully established a link between numerous databases, including those of the motor vehicles registration authority, tax and customs board, population register and even commercial banks. The number of queries made through X-Road has climbed from just under 600,000 in 2003 to over 287 million by 2013 – a 487-fold increase in 10 years.⁴⁹ Most importantly, X-Road has enabled significant improvement in efficiency of government services. For example, a background check of a single vehicle (which involves inputs from multiple agencies) used to require

participation of three police officers over the course of some 20 minutes. Introduction of X-Road has enabled successful completion of the same background check by a single police officer in a mere two seconds.⁵⁰

After achieving considerable success in Estonia, X-Road has attracted the attention of other European governments. In 2013, Finland and the United Kingdom expressed interest in using X-Road for improving interoperability between their respective information systems. In addition, the recently introduced X-Road Europe aims to improve interconnectivity among public sector information systems of EU countries.

X-Road demonstrates how successful application of information technology can improve interoperability across state institutions while reducing costs and improving efficiency of government services. Enabling interconnectivity among otherwise isolated information systems offers decision-makers an attractive policy measure to address budgetary pressures and modernize the public sector.

Chapter VII:

Using Technology to Help Civilians Affected by Conflict

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Using Technology to Help Civilians Affected by Conflict

Jared Cohen
Director, Google Ideas

Introduction

Since the Second World War, interstate conflicts and associated combatant casualties have decreased, but civil wars and sectarian violence are rising. International efforts to protect and support civilians affected by conflict could benefit from the integration of ICT in peace-making, humanitarian aid and emergency response efforts, and more direct participation from private sector partners. International actors have started to incorporate ICT to support civilians in conflict zones, but there is room for more. This chapter outlines the key challenges to tackle the ways ICT can expand capacities of international agencies to help civilians.

The proliferation of democratic governance systems has been critical to decreased levels of interstate war, as it permits societies to build institutions that make armed conflict a less appealing option in resolving disputes. Today, it is intrastate conflict (including civil war, sectarian conflict and one-sided violence) which makes up a greater share of armed conflicts, and greatly affects civilians who are involved as perpetrators and victims of violence. In intrastate conflicts, the line between combatants and non-combatants (who is and who is not) tends to be blurry.

Critical Civilian Needs

ICT can contribute to aid agencies' efforts to help civilians, including:

Food and water

The World Food Programme conducted a review in 2006 that found too many cases of acute malnutrition in UNHCR camps, including camps in Kenya, Ethiopia and Sudan.⁵¹ The UNHCR estimated that half of all refugee camps could not provide residents with the recommended daily minimum quantity of water per person.

Physical and mental health

Populations in camps tend to have worse health than comparable communities in

the developing world. There are a number of barriers to care. In camps, physicians, personnel, equipment and counsellors are often scarce; camps tend to be in remote areas, where delivery of provisions is difficult, and armed groups intercept medical provisions or expel medical personnel.

Education

Displaced communities have limited access to education. In 2008, the UNHCR reported that in less than 47% of refugee camps, less than 70% of children were enrolled. The current educational crisis

affecting displaced children poses a great economic and political crisis for the future of war-torn countries, and threatens to leave an entire generation unschooled.

Employment

Displaced residents are forced to leave behind their livelihoods and means of economic independence. They depend almost completely on foreign aid to sustain life in refugee camps. While informal economies often develop in camps, they usually lack the proper infrastructure to support robust markets for employment.

Uses of Technology

ICT has contributed to the mechanization and impersonalization of warfare, particularly as countries finance drone development. But ICT can also alleviate the effects of conflict on civilians by mitigating the problems outlined above with innovations including:

Satellite imagery

Its use began apace in 1999, when the first high-resolution imagery became commercially available. Since then international organizations have used satellite images to monitor and analyse armed conflict – gathering intelligence, verifying reported incidents, and monitoring movements of armed

groups in near-real time to more accurately assess necessary relief provisions and coordinate delivery of aid to affected zones and communities.

Crowd mapping

Connection technologies, in particular mobile, are among the most transformative innovations of the past decade. According to World Bank data, there are 85.5 mobile subscriptions per 100 people, which have transformed humanitarian aid responses to conflicts, environmental disasters and humanitarian crises. Crisis maps are now a standard part of the relief landscape. Since Hurricane Katrina in 2005, Google has maintained a crisis response team that

harnesses crowdsourcing of data to provide critical information during natural disasters.

Unmanned aerial vehicles

To provide food, vaccines and medical provisions to remote camps, international humanitarian agencies can use unmanned aerial vehicles (UAVs). UAVs are employed by militaries in combat zones, but the potential civilian applications are just as numerous if not more so. The Gates Foundation is financing a drone prototype for vaccine delivery, designed by the Massachusetts Institute of Technology and Harvard University, to deliver vaccines to remote areas in the fight against preventable diseases.

ICT to Address Civilian Challenges

Health

ICT can improve physical and mental services and supplies when there are shortages in medical personnel and staff. An SMS service could enable displaced individuals to submit symptoms or questions to a remote network of health professionals and receive immediate professional advice or counselling. This SMS service could also enable medical staff in the camp to access a broader network of health professionals to seek advice about particular cases.

Education and employment

Distance learning, delivered through inexpensive mobile devices or computers, is one way to address the education gap. Several years ago, Stanford University launched the Dunia Moja Project (One World Project) in collaboration with Makerere University in Uganda, Mweka College of African Wildlife Management in Tanzania, and the University of Western Cape in South Africa. This project sought to develop a curriculum to be delivered through smartphones. Throughout the semester, students received audio-visual

instructional lectures and submitted audio, visual and textual assignments through their mobile devices.

Security

To ensure the security of camps, UAVs could be used for reconnaissance. Drones could monitor the perimeter of a camp to detect unusual movements and serve as a deterrent for armed attacks. Real-time images of camp borders and potential unrest can help peacekeepers and international actors respond to incidents swiftly and hold to account those responsible.

Conclusion and Recommendations

Advances in ICT can provide governments and international organizations with unprecedented capability to mitigate threats in the face of conflict and instability. Integrating recent technology innovations in the aid landscape may require legal and operational frameworks to support the appropriate processes by the aid community. It would be preferable for this process to be undertaken by international, multilateral and multistakeholder governing bodies, as the private sector has an important role to play. Technology companies can help by considering how their tools and platforms are and could be useful to populations affected by conflict. Relatively small investments in directing technology for humanitarian purposes can not only improve living conditions for affected groups but may also contribute to innovative and unexpected new ways that technology can serve people everywhere.

Case Studies



A protester takes a photo with a cellphone at the entrance to Congress in Guatemala City. © Reuters / Jorge Lopez

Technology and the Future of Political Violence

Stathis N. Kalyvas

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While conflict is endemic and natural in human societies, violence can be prevented and minimized. In a democracy, decoupling conflict from violence is a goal more realistic than either eliminating conflict or eradicating violence.

By providing a set of political institutions to tame conflict, democracies have contributed in a decisive way to

the reduction of both domestic and interstate violence (the so-called “democratic peace”). Hence, encouraging democratization, besides being an important objective in and of itself, can help reduce political violence. Much has been written about the role of new technologies in the emergence of new democracies, such as the role of social media in encouraging mass awareness and mobilization in authoritarian states. Indeed, if the rise of newspapers and mass literacy has encouraged democratization in the past, why not expect it to do the same in the future?

Two problems arise here, however.

First, the process of democratization in the past was largely “endogenous”, generated from inside societies. Today, democratization is often, if not imposed from outside, at least induced by the international community in poor and developing countries. It may

be possible, therefore, that the effects of democratization diverge from what they have been so far. Two examples are worth underlining. First, in poor and ethnically-divided countries, violence can be used to manipulate elections. Electoral violence is a form of political violence that is on the rise and may become an even more important problem in the future. In some democratizing countries, past authoritarian police practices and arrangements have collapsed, leading to the rise of organized crime. Indeed, several studies have linked the rise of organized drug-related violence in Mexico with the democratization process.

Second, the rise of mass media in the 19th century was far from peaceful and linearly connected with democratization and the reduction of violence. Mass-circulation newspapers were initially used by rising mass parties to expand their influence, in a process characterized by considerable social polarization and street violence.

Both the Italian Fascists and the German Nazis were masters at harnessing the new technologies of the time, including newspapers and radio. The role of radio has also been highlighted in connection with ethnic riots in India and elsewhere, and even genocide, as in Rwanda.

The gist of these two objections is that even though more democratization is expected to take place in the years to come, it is not likely to be a clean, linear process.

New technologies can be deployed both by those seeking to shore up political stability and by those who advocate social change – be it towards more democracy, or its opposite.

Consider the following examples. The proliferation of cellphones has helped

insurgents coordinate their actions, but has also provided opportunities for civilians to privately relay information to counter-insurgents. Recent research from Africa finds that the availability of cellphones has a positive effect on conflict initiation: where counter-insurgents are not present, cellphones generally favour the production of anti-government violence by undermining the effects of government propaganda, making selective punishment within dissident groups easier, and improving the coordination of rebel operations. Lastly, the rise of citizen journalism and the emergence of mobile phone-based GPS and video provide new tools for the accurate and fast reporting and mapping of human rights violations. However, the possibilities of manipulation are also obvious. Overall, recent research converges in its

assessment that the effect of technological innovation is most likely a wash.

In summary, the key question that ought to be addressed is how to reinforce the positive and benign use of new technologies and prevent their negative and dangerous use. This is even trickier to answer since measures originally intended as preventive of violence and protective of the citizenry – such as the collection of information from citizens' private communications – have proven easy to be hijacked to reduce individual freedoms. Conversely, technologies that have been heralded as empowering for the people have either empowered the radical fringe or proved insufficient for the people, as the outcome of the Arab Spring amply demonstrates.

Using Big Data to Prevent Violence and Conflict

Dmitry Zhdankin
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The practice of collecting and analysing information from extremely large and complex data sets – big data – has achieved considerable traction over the last several years. Rapid advancement in computing power alongside booming availability of data, aggregated by search engines and social networks, has seen the application of big data within the fields of finance and advertising. But can big data also be employed by governments, civil society groups and individuals as a tool to alleviate conflict and prevent violence?

Recent examples of big data projects for the prevention of violence and conflict demonstrate that, indeed, aggregation and analysis of numerical as well as textual information can find applications as diverse as tracking drug cartels in Mexico and mapping defections in Syria. While still in its infancy, big data represents a powerful



Free Army Fighters
on a reconnaissance
mission in Idlib, Syria.
© Reuters / Khalil Ashawi

tool likely to inspire new approaches to preservation of security of individuals across the globe.

The 2012 United Nations (UN) Global Pulse White Paper identified three key applications of big data for conflict prevention: Early Warning, Real-Time Awareness, and Real-Time Feedback.⁵² Recent advances within each of these sub-categories underscores the potential of, as well as the challenges posed by, the use of big data for conflict prevention.

The rapid development of social networks and blogging platforms has caused incredible growth in textual data. In addition, analytical tools offer an

unprecedented opportunity to sift through millions of public records – from Twitter and Facebook posts to WordPress articles. Mining these data in real-time enables identification of deteriorating security conditions at early stages. CrisisTracker, currently being developed by a doctoral student at the University of Madeira, is an automated tool that mines countless Twitter updates for information pertaining to potentially emerging conflicts. Supported by a collaboration of OpenIDEO, Humanity United and the US Agency for International Development (USAID), its creator is hoping that the tool can become a functioning service for early warning and prevention of violence.

Identifying and analyzing data pertaining to an ongoing conflict also offers an opportunity to develop and maintain a clearer perspective on security conditions. Network Mapper was a project developed by Google Ideas to identify and visualize defections in the Syrian government over the course of the ongoing civil war. The project relied on analysis of YouTube videos and other public records of defections for visualization of the unravelling network of political, familial and military actors in the conflict. Availability of this tracker enabled an accessible visualization of trends and patterns within the Syrian government.

Real-time monitoring of available data makes it possible to understand where particular policies may be failing and adjustments needed. MOGO, a tool developed by researchers at Harvard, offers a simple, low-cost solution for the analysis of drug cartel activity in Mexico. By searching through reliable online resources such as newspapers and blogs with Google, MOGO was able to identify market strategies employed by specific drug cartels and map their activity at the municipal level. Knowledge of how drug cartels move and operate throughout different regions could offer important intelligence for the Mexican government to respond with appropriate policies.

While several tools have been developed to employ big data as a means for prevention of conflict, many of these projects are yet to prove their robustness. Moreover, much of the recent activity in this area has been concentrated within government agencies. A stronger partnership between governments, civil society groups and other stakeholders would enable a more rapid development of better tools for conflict alleviation. At the same time, addressing the issues of individual privacy and ensuring protection of personal identities must be prioritized to ensure success of future projects.

Eliminating the Use of Conflict Minerals in IT Industries

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The advent of information technology and the wide availability of personal electronics have driven increased global demand for a select group of metals. Tantalum, tungsten and gold are the minerals most often employed in the manufacturing of devices, ranging from smartphones to supercomputers. However, in pursuit of diminishing costs, the producers of the capacitors and resistors used in these devices have grown increasingly reliant on so-called “conflict minerals”. Conflict minerals are manufacturing inputs that have been found to fuel instability in areas such as the Central African Republic, South Sudan and the Democratic Republic of Congo (DRC). In the DRC in particular, exports of gold and tantalum has been linked to the financing of atrocities, such as rape, mutilation and violence, on a dramatic scale.⁵³

The introduction of the 2010 Dodd-Frank Act in the United States now offers a possible solution to the tech industry’s dependence on conflict minerals. By requiring publicly traded companies to independently evaluate and disclose the

use of conflict minerals in their financial statements, Section 1502 of the Act aims to eliminate the indirect financing of atrocities in the world’s most vulnerable regions.

Leading by Example

With the requirement coming into full force in June 2014, several large electronics producers have already stepped up their efforts to eliminate conflict minerals from their operations. In January 2014, Apple announced that, following a thorough selection and verification process, the company was able to ensure that none of the tantalum used in its devices comes from mines located in conflict regions. It is now conducting similar investigations concerning gold, tin and other materials of potentially harmful origins. Intel, a leader in advancing conflict mineral-free manufacturing even before the introduction of the Act, announced in early 2014 that it is manufacturing the first microprocessors made entirely from conflict-free inputs. By eliminating conflict minerals from their own production processes, the tech-industry giants are expecting to nudge their smaller suppliers into greater diligence with respect to their inputs.

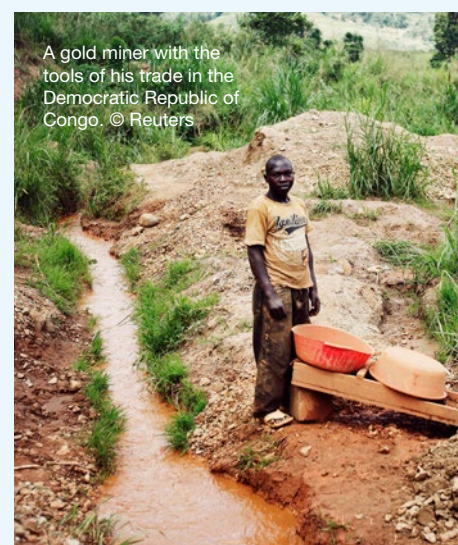
Challenges Remain

While the Act has already led several major manufacturers to accept greater responsibility to ensure their inputs are ethically sourced, it is not entirely clear whether it is as effective with smaller companies. The costly audits may force certain producers to eschew the regulation by avoiding public disclosure altogether. In addition, Section 1502 will need to

withstand the legal challenges now being mounted by several manufacturers.⁵⁴

Conclusions

Section 1502 of the Dodd-Frank Act requiring publicly traded companies to disclose their use of conflict minerals demonstrates that, frequently, advances in information technology are accompanied by inadvertent consequences that can go as far as contributing to conflict in fragile regions, such as in the DRC. Government has a role to play in advancing necessary regulation to prevent the tech industry’s unintended support of harmful regimes. But the necessary safeguards must be put in place to ensure that such legal frameworks do not stifle innovation or harm the viability of smaller firms.



A gold miner with the tools of his trade in the Democratic Republic of Congo. © Reuters

Chapter VIII:

The Impact of ICT for Government Innovation

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The Impact of ICT for Government Innovation

Mauro Dell’Ambrogio

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Introduction

The ability to recognize, assess and nimbly respond to challenges is crucial for governments to preserve stability and sustain growth in the face of changing times. While dealing with increasing constraints such as limited budgets, geopolitical risks and trade competition, the public sector needs to innovate to successfully fulfil its mission. Innovation is equally important in – and is widely accepted as a key factor of – building competitiveness to develop a strong and advanced knowledge-based economy. The State has a key role to play in contributing to improving the country’s competitiveness by ensuring good conditions for economic and social prosperity and by sustaining the innovation capacity. This chapter identifies the conditions under which innovative governments can deliver better services to businesses and citizens (innovation in the public sector) and contribute to competitiveness and sustainable growth (innovation through the public sector). It explores how ICT can affect the government’s role and help it to think and act differently.

Innovation in the Public Sector

In the private sector, efficiency and innovation have always been critical factors of success, but the public sector evolved from a different set of goals. Public sector change is often linked to new laws and social norms, not innovation. For example, the social welfare state, universal primary education and infrastructure improvements required government to scale, but not necessarily to innovate. However, in recent years there have been many calls for innovation in the public sector. This toolbox uses

the European Union Innobarometer’s definition of public sector innovation: “An innovation is a new or significantly improved service, communication method, process or organizational method.” It considers incremental innovation, based on the propensity for change and the ability to implement it over time. Activities include:

- **Services:** Innovation comes through new services, improving quality or adapting delivery
- **Administration/organization/**

processes: Innovations in organizational structures and routines, decision-making processes and policy design

- **Concepts and visions:** Developing new views, challenging assumptions and establishing new ways of collecting and using data
 - **System/relations/interactions:** New or improved ways of interacting with other organizations and using sources of knowledge; includes communication and promoting and influencing user behaviour
-

Three main differences between public and private sector innovation are:

- **Content:** The private sector mainly focuses on products. In the public sector, innovation includes processes, governance and services. Measurements cover input, throughputs, outputs and outcomes.
- **Motivation:** In the private sector, competition is a motivation. In the public sector, innovation is not an end in itself. It may be reactive,

generated by external contingencies such as changing societal needs and globalization, or by internal constraints like financial pressure and performance targets. Innovation may be the result of a proactive attitude, such as increasing legitimacy.

- **Scope and benefits:** In the private sector, innovation processes and research and development (R&D) investments may not generate results; products may fail on the

market. In the public sector, the net gain of innovation may be similarly negative, such as by failing to meet citizens' expectations.

Since the public sector contributes to a substantial share of national GDP, innovation can potentially "improve productivity (and hence living standards), efficiency of service delivery and quality of public services" (EPSIS 2013⁵⁵). It should also enhance the agility of government to address immediate or future challenges.

ICT Can Help Government Innovation

The development of ICT can become an input, opening new possibilities, constraints and pushing governments to react, adapt or find new solutions. ICT is itself an innovative product, stimulating all sorts of other innovations.

Technological innovation can generate non-technological innovation, such as know-how, skills and organization.

It can be a means to provide new services internally and externally or to improve their supply, fostering core values such as efficiency, accessibility and transparency.

ICTs and technological innovation in general can be a result of the government's actions. Public procurement, with its specific

requirements and needs, can induce technological innovations.

ICT is crucial to imagine, implement and monitor policies and services. Yet, it is important to note it has no intrinsically positive effects, and should be carefully understood and analyzed to identify how it can stimulate or hinder innovation.

Innovation Through the Public Sector

Governments can stimulate innovation in the private sector as part of their mission to support national competitiveness. Governments are increasingly aware of its importance and put innovation activities at the centre of growth strategies. The definition used of private sector innovation is from the OECD Oslo Manual.⁵⁶ It emphasizes novelty, change, implementation and systemic complexity. Several indexes have been developed to capture the complexity and multidimensional facets of innovation, such as the World Economic Forum's *Global Competitiveness Report*. These evaluate inputs, firm activities and outputs to identify national strengths and weaknesses.

- **Inputs** are all the elements or enablers that foster innovation in a systemic way. They can include human resources, investment in R&D and infrastructure.

- **Firm activities** include investment in innovative activities, connections and interactions between research institutes and companies, and internal organization.
- **Output** measures account for the results of innovative activities such as patent applications and trademarks, and assess the impact of innovative products or innovation activities on micro- and macroeconomic levels.

This toolbox supports the idea that the government has a role to play in a knowledge- and innovation-based economy and in nurturing the innovation ecosystem. State intervention should focus on all stages to create favourable conditions for innovation to emerge, develop and diffuse. Instruments to support innovation can work at the macro- or micro-firm level, and act directly or indirectly on enablers, activities and outputs. For each, ICT has a role to play.

Enablers are all of the elements that build tangible and human capacities and foster a favourable environment for innovation. They include investments in R&D, infrastructure, education, training and research. Cultivating connections with companies can improve skill development and attract qualified personnel needed at all stages. ICT can stimulate innovation in the private sector. As the Innobarometer shows, improved and innovative public sector procedures and services can increase the probability that a company will innovate. This works in particular when such activities help to create a more business-friendly environment and increase access to innovation.

Behavior-oriented instruments aim to change the behavior and perception of firms, build capacities and stimulate new public-private-academic interactions. Government can support knowledge transfer and knowledge exchange,

for example, by helping partners to establish contacts across sectors or industries. ICT can help to drive new services, better access and increased efficiency; simplify processes and facilitate contacts, exchanges and networking; and improve access to key information. ICT and social media in particular can

support the exchange of ideas, knowledge and learning, connecting people and sources of knowledge and information.

Output-oriented actions help support the last stage of innovation and the arrival of products on the market. Contributions to publications and facilities for patent

applications are aligned with public service delivery, accessibility and efficiency. The apps developed through the access of data are made public on the US OpenGov platform. Data collected and shared by the government is used by private developers to create websites and smartphone apps.

Conclusion and Recommendations

ICT gives the public sector new incentives and ways to fulfil a core mission to deliver efficient, transparent and accountable services. While new ICT often constitutes a risk in itself, it is also a means of monitoring risks and anticipating the future.

Governments have a key role in supporting national innovative ecosystems. While new ICT is sometimes the focus of industrial policies, this toolbox emphasizes how ICTs help to develop or reinforce instruments for innovation. Their positive effect is achieved only through a systemic vision of innovation integrating the key stakeholders.

Case Studies

Open Data in the Filipino Education System: Checkmyschool.org



Students take their school oath in Manila, Philippines.
© Reuters / Romeo Ranoco

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Open data is defined as the release of information by governments and private institutions and the sharing of private data

to enable insights across industries. Many open data initiatives, particularly in the public sector, have improved the transparency and accountability of institutions. A recent report from McKinsey Global Institute shows that “making data more ‘liquid’ (open, widely available and in shareable formats) has the potential to unlock large amounts of economic value by improving the efficiency and effectiveness of existing processes; making possible new products, services, and markets; and creating value for individual

consumers and citizens. Realizing this potential will involve creating safeguards for personal privacy and business confidentiality, investments in technology, and changes in mindsets and work processes.”⁵⁷

In 2011, the Affiliated Network for Social Accountability in East Asia and the Pacific (ANSA-EAP) and the Department of Education of the Philippines created Checkmyschool.org (CMS) – a participatory monitoring tool which aims to promote

transparency and social accountability in the Philippines' education sector by tracking the provision of services in public schools.⁵⁸ This project is jointly supported by the World Bank Institute and the Open Society Institute.

The platform uses open data to promote citizen participation in the monitoring of the quality of schools. "In the initial six months since its launch, checkmyschool.org has mapped 8,000 of the 44,000 public elementary and high schools in the country, and is aiming to gradually include all of them. In addition to this mapping exercise, checkmyschool.org is also establishing a network of information intermediaries ("infomediaries") – capable and technology-

literate volunteers, drawn from the community, who play a key role in helping to engage the public on service-related inquiries."⁵⁹ Following the widespread use and success of the platform, other countries have expressed interest in trying this method to strengthen social accountability.

By providing its data, the Department of Education of the Philippines allows parents, students and educators to monitor the resources that it has made available to the schools, who can then use it to monitor and report any misuse of public funds.

The innovation of this platform lies in the way it combines open data with

civic participation in the shape of citizens' feedback to improve public services. It stimulates progress both inside and outside the public administration. Its success is built on the partnership and constructive engagement between the government (the Department of Education), civil society (ANSA-EAP), and empowered communities, and their will to increase transparency through effective use of ICT tools.

*With special thanks to
Lisa Ventura, Research Analyst,
Global Agenda Networks,
World Economic Forum*

Mexico's National Digital Strategy

Jorge Soto Moreno

Founder, Data4; Global Shaper,
World Economic Forum

During his election campaign, President Enrique Peña Nieto signed a commitment to establish a Digital Agenda for Mexico, with the goal of narrowing the digital gap and encouraging access to ICT to fight corruption, enhance transparency and accountability, increase trust in government, and spark innovation and entrepreneurship.

To fulfil that commitment, the office of the President of Mexico has created the National Digital Strategy, with the aim of maximizing the economic and social impact of technology on society. It aims to build a new relationship between society and government; stimulate the creation of new companies and digital products; educate and prepare the Mexican population for a global, competitive and hyper-connected world; increase the coverage and efficiency of health services; promote public security; and prevent damage from natural phenomena.

To articulate the National Digital Strategy, the system will evolve from a universe of nearly 5,000 websites of the federal government to just three – gob.mx for

e-government services, datos.gob.mx for all public data in standard formats and visualization tools, and a third one for international investment and tourist information.

The government is working to transform the way citizens interact with its authorities. All government services and information will be on one site, gob.mx, accessible from anywhere and on any device. The first step towards this goal was to learn how many services there are. The government conducted a census of services at the national level and found 6,925 services provided by 276 agencies. At the state and municipality level, there were around 11,000.

Currently, the government is working to identify duplication and simplify and digitize services, after which a public launch will be made by the last quarter of 2014. This simplification of processes and procedures is expected to have a direct impact on how the government serves citizens and an indirect impact on standardization, infrastructure investment, efficiency and avoidance of duplicity.

The simplification, digitization and unification of all services and communication on a single website would have a major benefit for society: saving time and money and increasing competitiveness. Such a strategy would enhance trust in government, because every service provided and all the information published becomes accountable.

This e-government project is expected to increase transparency, reduce corruption and, most importantly, place citizens' needs at the centre of the government's priorities.

Elsewhere, the Mexican government recently launched the draft version of the National Policy on Open Data (datos.gob.mx). The platform was developed in partnership with the Argentinian team of **Democracy OS**, which is an open-source voting and commenting interface that focuses on user experience. The content was divided into five main sections using citizen-centric language: main objectives, open data standards, institutional framework, publication guide and protection of privacy, and fostering use of data.

The complete policy can be accessed through a public Google document and as of 31 March 2014 has undergone 245 revisions by citizens. This is the first time in Mexico's history that a national policy is open for voting, commenting and editing before becoming a presidential decree.

To create such a policy and define a roadmap, the government enlisted international experts to help determine both supply and demand for open data, and to undertake an assessment of preparedness for such a policy. This involved 70 federal government agencies and interviews of more than 120 government officials, civil society leaders, industry representatives, academics and journalists.⁶⁰ On a scale of 1 to 5, the assessment ranked Mexico 4.42 on prepared ecosystem (journalists,

developers and government officials that use and reuse data), 3.83 on funding, 3.68 on data demand, 3.18 on data integrity and 1.67 on legal framework.

After the diagnosis, the government embarked on an exercise called Data-tron, a digital survey that aims to get a more nuanced understanding of the demand for open data by citizens. Data-tron asked respondents to choose which data they needed most. It received 60,000 responses from 10,000 citizens in a 30-day period. Accountability was the most requested topic (by 14.06% of respondents), followed by finance and budget (13.63%) and education (12.44%).⁶¹

The government is now evaluating all the data sets of the federal government ranging from fully open to fully closed,

depending on four characteristics:

- **Accessibility:** whether any user can access the data in its original format.
- **Machine readability:** the ease with which data can be processed automatically.
- **The cost:** whether the data is made available for free.
- **Limitations:** regarding the rights to use, reuse and distribute the data.

To really make the system effective, the federal agencies must ensure that any public information generated includes the original data formats and open standards. Since the process is complex, the government has created data squads made up of experts in technology, data usage and regulations, which are responsible for supporting the agencies in opening up their data. These squads will also be responsible for defining standards through the public

sector, publication of new data sets depending on public demand, and correct use and implementation of the Mexican open data licence.

The intangibles expected include:

- A greater understanding between government, civil society, academia and entrepreneurs on the nature, potential and opportunity of technology as an enabler to solving social problems.
- Increased interest among entrepreneurs and technologists to use their skills to address governance issues and challenges.
- Creation of a series of collaborative projects between government and innovators from outside.
- Awakening of a movement of civic and social entrepreneurs.

Norway as a Leader in Digital Government

Dmitry Zhdankin
Research Analyst,
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Over the past several years, Norway has firmly established itself among the world's leaders in public sector innovation. Numerous studies, including those conducted by the United Nations and the consultancy Accenture, consistently confirm Norway's outstanding performance in digital governance.⁶² A closer look at some of the policies adopted by Norway reveals that much of its success rests on three key pillars: establishing an agency dedicated to modernization of the public sector; offering a broad array of user-friendly digital public services; and enabling transparent digital access to government records.

Norway's success in modernizing its public sector can be attributed in part to the leadership of the Agency for Public Management and eGovernment (Difi). Difi was established in 2008 to advance the government's robust information technology

agenda, and is charged with assisting Norwegian government agencies and local authorities in digital reorganization. In a way, the agency acts as best-practices consultant that coordinates digitalization of the public sector on issues ranging from open data to e-procurement. Difi relies on a forward-looking approach in recognizing that modernization of the public sector gains importance with each new generation of increasingly tech-savvy Norwegians.

Among the key priorities of the country's modernization strategy is ensuring that the public sector provides unified and user-friendly digital services that can be accessed with a simple, secure login. This has led to development of an eID – a centralized infrastructure that enables its users to access all available online services with a single set of personalized credentials. Individuals with an eID can apply for admission to a university, receive prescription medication, or track their pension. Most of these services can be accessed through the user-friendly hubs of **Altinn** and **Norge.no**. Altinn has proved particularly beneficial for over 400,000 businesses that rely on it to electronically provide the government with all of their required paperwork (concerning taxation, for instance). Almost 90% of all Norwegian firms have used the portal at least once, and the government is expecting it to

generate billions in savings over the next two decades.

In keeping with its commitment to transparent governance, Norway has developed one of the world's most advanced open data frameworks. **Offentlig Elektronisk Postjournal** (OEP) is a centralized platform that allows its users to search and request documents at all levels of government. The OEP processes some 20,000 requests monthly, including those from journalists, citizens, businesses and scholars. Its database contains more than five million registry entries produced by 105 government agencies.⁶³ The availability of these records acts as a guarantee of accountability, transparency and democracy in Norway.

Innovations in governance, including advances made through simplification of access to digital public services and open data, have propelled Norway among the ranks of global leaders in digital government. The government is expecting to experience significant savings by eliminating the costs associated with the less efficient, paper-based public sector systems. With an ambitious agenda to achieve complete digitization of its services, Norway is likely to remain a global example of successful public sector modernization.

Chapter IX:

Scenarios on the Future of Government

Chapter IX:

Scenarios on the Future of Government

Kristel Van der Elst

Senior Director, Head of Strategic Foresight, World Economic Forum

Introduction

In parallel to the work the Council undertook to develop the toolbox, the Members teamed up with the World Economic Forum's Strategic Foresight team to create scenarios on the future of government. Specifically, the scenarios depict possible contexts within which questions could be asked about the future roles and forms of government. The intent of creating the scenarios was twofold: first, to stretch the thinking of the Council Members to assist them in making the toolbox as robust and forward-looking as possible; and second, to facilitate insightful conversations among a range of stakeholders on policy actions needed now to ensure governments are prepared for the future, however it may unfold.

To develop the scenarios, the Strategic Foresight team interviewed Council Members to understand their perceptions of the major forces of change that will impact the role and forms of governments in the future. The forces they named were:

- 1. Urbanization and mega regionalism:** The move by citizens to urban centres and the creation of economic and political cooperation corridors that are indifferent to historical geopolitical borders
- 2. Community building and identity:** The nature of community building and the expression of citizens' opinions and identities online
- 3. Society's expectations of government:** The scope and nature of citizen demands on national governments
- 4. Availability of financial resources for government:** The degree to which national governments have access to financial resources to fund public service delivery
- 5. Non-government public service delivery:** The degree to which traditional public services are provided by businesses and other non-state actors, and the possible role left over for government (i.e. quality assurance, dispute settlement, management, consultant, etc.)
- 6. Division of labour among actors and jurisdictions:** The extent to which governmental roles and responsibilities shift to other levels, i.e. local, regional or multinational, or other yet undefined levels of activity
- 7. Big data:** The collection, use of and access to mass amounts of information
- 8. Cyber capabilities:** The inequalities between states, citizens and other actors relating to access to technology, from cyber weapons to educational materials
- 9. Complexity of challenges:** The creation and nature of complicated coordination problems
- 10. Fads and fashions in governance models:** The extent to which models of governance gain and lose popularity, notably in reaction to the perceived success and failure of certain models
- 11. Leadership:** The nature of leadership in the future and the skills and actors required to fulfil this role

Exploring the different ways in which these forces could play out in the future led to the development of three scenarios: *e1984*, *Gated Community*, and *CityState*. They are described below, including key questions they raise for the use of the toolbox and policy-making.

e1984

This is a world in which the promise of big data is realized; economic, geopolitical and cyber threats are omnipresent; and collective solidarity is a core societal value.

How did we get there? Amid economic volatility, geopolitical instability and the rise of cybersecurity concerns, there is an upsurge of nationalism. People are willing to trade some freedoms and privacy for an increased

sense of collective security. Fatigue around politics, the trade-offs caused by plurality of interests and the desire for efficient provision of public services lead citizens to seek traditional governance systems that emphasize efficiency.

What questions does this scenario raise?

- Will big data lead to better policies?
- What policies could be implemented

effectively and efficiently?

- Will citizens let their data vote on their behalf?
- What will be the role of the private sector?
- How will innovation be supported?
- How are individual rights protected?
- Does democracy function in this world?
- How do societal values change in a world of ubiquitous surveillance?

Gated Community

This is a world in which Big Government is broke. Political power rests with individuals and private sector organizations. Individual responsibility and choice prevail in society and the private sector has become the main provider of collective services.

How did we get there?

Inefficient management by government, coupled with the efficient privatization and tailoring of core services, leads to increased

support for the private provision of collective services. Individual preferences over historical collectives and the desire for differentiated, tailored services lead to the decline in collective solidarity and an increased willingness of individuals to be more directly involved in public policy development and execution.

What questions does this scenario raise?

- What innovations might we see in this world?

- Is there no more cultural solidarity?
- What is the role of national governments?
- What collective goods will be public goods or private goods?
- What will be the implications of inequality?
- How does society solve collective action problems?
- How will the governance system manage changes in popular opinion?

CityState

This is a world in which authority is decentralized to the city level and pragmatism trumps idealism in addressing collective issues.

How did we get there?

Urbanization leads to growth in the number of cities and their size and consolidation. The scale of cities means they can innovate

and get things done more easily, which raises their relevance and power vis-à-vis national governments. This is the time of the mayor, who now has political star power.

What questions does this scenario raise?

- How can cities best promote policy and governance innovation?
- Is this world prone to conflict?

- Is global collective action still possible and, if so, how?
- What becomes of national and regional political constructs?
- What are the consequences of rising charisma and personality politics?
- What will be the impact of migration and how will it be managed?

Conclusion and Recommendations

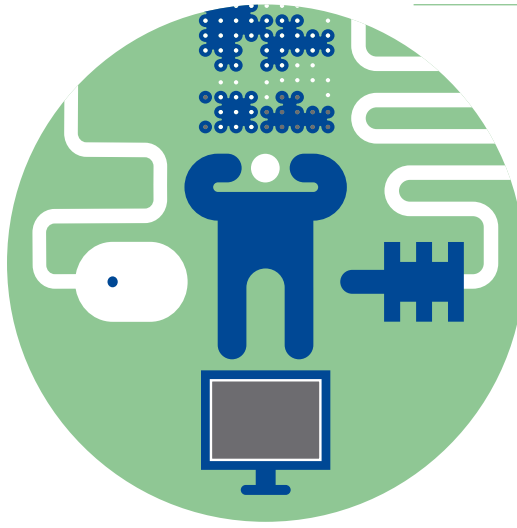
In his conclusion in the workshop at the 2013 Summit on the Global Agenda, Joseph S. Nye, Jr. remarked, “Today’s trends left unattended could lead to dystopian futures.” While none of these scenarios is likely to come to pass in full or in isolation from the other scenarios, all the scenarios contain some elements of truth. Smart policy-making in the present can ensure that as different variations of these three futures unfold, they are contributing to positive gains for society.

For more information on the future of government scenarios, visit wef.ch/futgov. The three scenarios were visualized in an art poster series which can be used in workshops and other forums to explore policy options for preparing governments for the future.

Scenarios

Welcome to the future of Government e1984

e1984 is a world in which the promise of Big Data is realized; economic, geopolitical and cyber threats are omnipresent; and collective solidarity is a core societal value.



Big Data defines policy design and delivery: The trust citizens put into the government allows for the harvest and analysis of Big Data. In this way governments can effectively and efficiently assess citizen behaviour, values and interests, thereby creating and implementing targeted policies and services.

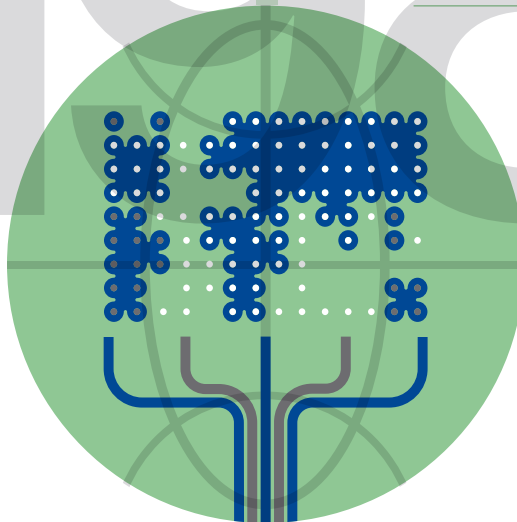
How did we get here? Amid economic volatility, geopolitical instability and the rise of cyber security concerns, there is an upsurge of nationalism. People are willing to trade in some freedoms and privacy for an increased sense of collective security.

Power is entrusted to technocratic governments: Power is centralized at a national level as citizens trade individual preferences for collective security.

Fatigue around politics, the trade-offs caused by plurality of interests and the desire for efficient provision of public services lead citizens to seek traditional governance systems that emphasize efficiency.



Physical borders are extended into the virtual world: Guarded State Intranets are created as cyber-attacks become increasingly sophisticated.



People trade privacy for security: Citizens are increasingly complacent and lack motivation for personal involvement in traditional political institutions.



What could you be asking yourself in e1984? Will Big Data lead to better policies? What policies could be implemented effectively and efficiently? Will citizens let their data vote on their behalf? What will be the role of the private sector? How will innovation be supported? How are individual rights protected? Does democracy function in this world? How do societal values change in a world of ubiquitous surveillance?

2050: How can we avoid an electronic 1984?

Rod Beckstrom

Chief Security Advisor, Samsung; Chair, Global Agenda Council on the Future of the Internet, World Economic Forum
19 January 2014 | <http://forumblog.org/2014/01/2050-digital-future-e1984/>

Imagine it is 2050. Economic, geopolitical and cyber threats are omnipresent. Political power is centralized at a national level. Citizens sacrifice their individual freedoms for collective security. Physical borders extend into the virtual world and national intranets are created in response to increasingly sophisticated cyber-attacks.

This extreme scenario is up for debate at this year's World Economic Forum Annual Meeting in Davos-Klosters. We hope that considering different scenarios for the world in 2050 will provide a better lens to judge our options for shaping the governance systems of the future.

In this imaginary future called e1984, the promise of big data has been realized. The trust that citizens place in their government allows for the harvest and analysis of big data. Governments effectively and efficiently assess citizen behaviour, values and interests, and use that information to advance their policies and services.

As efficiency and satisfaction rise, citizens are increasingly complacent and lack the motivation to be personally involved in traditional political institutions.

e1984 is a familiar picture of a dystopian world, but with a twist: can big data lead to better policies? Will citizens let their data speak for them? How would societal values change in a world of ubiquitous surveillance?

Governments by nature want power; they certainly want more power to gather information. But how will they use it? In the best possible world, they will create good policies and govern well. But history suggests that it is just as likely they will use it against their political opponents. Some governments might see it as a tool to limit resistance and discourage organized opposition.

Big data must be taken seriously. In the wrong hands, it can be a powerful weapon. Imagine, for instance, what Richard Nixon might have done with unrestricted access to information. Based on the technologically crude break-in at the Watergate Hotel, he'd likely have used it to undermine political rivals in support of his

re-election. Many politicians today would be similarly tempted; the risks are real.

For big data to be a legitimate political tool, the system needs checks and balances. The internet is history's biggest and most complex system, possibly mankind's greatest technological achievement. But it wasn't designed for security; it was designed for openness and information sharing.

Nation states have a vested interest in trying to increase their power by securing their networks, but it's really hard to block the internet. And their interest is based on a false assumption: locking down the internet into separate national networks might actually make it more vulnerable to attack at the national internet access points.

What's more, the effort may be hopeless. Beckstrom's Law of cyber security states that anything attached to a network can be hacked. And since everything is being attached to networks, everything is vulnerable.

It could also compromise another valuable internet quality: transparency. The practice of anonymizing data has been used successfully to protect identities. But using big data analysis, most people can now be identified through anonymous data. Companies can already recognize you from the way you click and type your password, a practice that has a history: during World War II, Morse code operators could be identified by listening to their tapping style. Computers can now be programmed to do the same.

The technological capacity to record and store massive data already exists, and the scope of data that governments and businesses collect on individuals is jaw-dropping. Soon, everything you listen to or say or look at through your computer glasses could be recorded. Permanently. In the not-so-distant future, this could maybe extend to everything you think.

While human nature suggests that big data might be used to create a dystopian e1984 by allowing government to track our private data, that transparency works both ways.

While governments watch their citizens, citizens are watching their governments.

The world is becoming a digital panopticon, in which everyone's behaviour is monitored by someone else. Micro-blogging sites like Weibo and Twitter already feed data back into that loop; we saw the impact of this in social movements. Weibo has more than half a billion users and is transforming the way the Chinese government addresses citizen input. Twitter is a valuable resource for sentiment analysis.

Revelations about the National Security Agency and Prism from Edward Snowden and the US government – along with the ongoing fallout from WikiLeaks – raise geopolitical issues of trust and confidence as well as US constitutional questions. But they are also clear examples of the emerging organic system of checks and balances in the new panopticon world.

Cyber threats are pervasive and will remain so – a consistent threat to personal privacy and to national security. But breaking up the internet to protect national interests, creating separate and self-contained national networks, will shatter the unity among nations that is essential to our collective future.

As to citizens relinquishing their voting power to an electronic third party, in a way they already do that when they relinquish their voting judgement to political parties and people they trust.

It seems unlikely that a collective preference for security over greater connectivity would ever emerge. The internet is breaking down traditional barriers and creating global citizens – people are more connected than ever to those in other countries and becoming less trustful of their governments, not more.

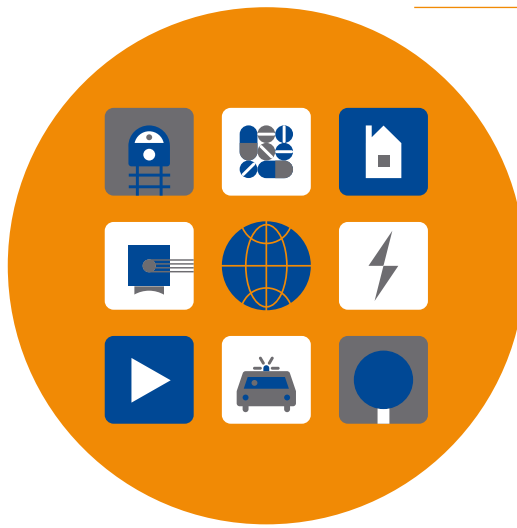
As we move steadily closer to connecting every person in the world, our economic future will depend on maintaining a unified global internet. It is the foundation for continuing innovation and economic growth, and our principal platform for communication across cultural and political boundaries.

Welcome to the future of Gated Community

Gated Community is a world in which Big Government is broke. Political power rests with individuals and private sector organizations. Individual responsibility and choice prevail in society and the private sector has become the main provider of collective services.

How did we get here?
Inefficient management by government, coupled with the efficient privatization and tailoring of core services, leads to increased support for the private provision of collective services. Individual preferences over historical collectives and the desire for differentiated, tailored services, lead to the decline in collective solidarity, and an increased willingness for individuals to be more directly involved in public policy development and execution.

Citizens evaluate policy in real time: Governance representatives have strong incentives to be responsive, as technology offers the means to provide real-time policy evaluation.



Highly competitive markets for collective services: People have come to look to the private sector for a more efficient provision of collective services. People value individual choice and seek living environments and personalized services that reflect their individual core values and lifestyle choices.



Gated Community



People co-design their living environment: People become highly involved in public policy-making and implementing, and are actively volunteering in their communities.

Social inequality is high: Individuals pay only for what they want and need, and express their preferences by moving to areas or by buying from providers who tailor to their desires.



What could you be asking yourself in Gated Community?
What innovations might we see in this world?
Is there no more cultural solidarity?
What is the role of national governments?
What collective goods will be public goods or private goods?
What will be the implications of inequality?
How does society solve collective action problems?
How will the governance system manage changes in popular opinion?

2050: How can we avoid a gated world?

Joseph S. Nye, Jr.

University Distinguished Service Professor, Harvard Kennedy School of Government;
Chair, Global Agenda Council on the Future of Government, World Economic Forum
19 January 2014 | <http://forumblog.org/2014/01/2050-can-avoid-gated-world/>

Imagine a scenario in which inefficient governments coupled with the efficient privatization of core services persuaded people to opt for a “user pays” system. Roads, hospitals, streets, lighting, schools – all these services are entirely managed by private companies. People value personal choice over national or ethnic identities, and seek to move to neighbourhoods that reflect their core values and lifestyle choices. Political power now rests with individuals and private sector organizations. Individual responsibility and choice prevail. The private sector is the main provider of collective services.

Citizens use technology to evaluate policy in real time. In this way, they co-design policy and shape their living environment through the choices they make. Governance representatives have strong economic incentives to be responsive. People become more involved in actively volunteering in their communities to shape their living environment.

Social inequality is high. Individuals pay only for what they want and need. Citizens express their preferences by moving to areas tailored to their desires.

To some extent, all scenarios are extrapolations of a trend that already exists. While all of the above could be beneficial in some respects, there are also features that could lead to dystopian outcomes.

We already have many gated communities. Technology is making markets more efficient. More and more things can be done with the use of markets, and that means the role of government, which still has an important role in regulating markets, may be seen as too cumbersome. In that sense, citizens will find that they can use markets to buy goods – say, security – that are in the purview of government as “public” goods, but can now be marketized as “club” goods.

Imagine a gated community hiring guards and providing its own police force, and members can pay for extra guards in their neighbourhood. That is a market transaction.

The government of the larger area in which gated communities exist play no role in it. We see this already – and I think there are reasons to believe that it is likely to increase.

The problem that comes with it – the aspect of this scenario that worries me – is what happens to our larger citizenship and to the positive qualities of that citizenship? If we regard ourselves solely as citizens of the gated community, then what’s our relationship to those who live outside the gates? What obligations, what relations, do we have? What will remain of “community” outside the gates?

The second thing that worries me is what about the public goods that are larger than those provided by the gated community itself? Security for the community can be provided by private enterprise, but what about national security? How will that be provided?

There are other public goods that simply can’t be provided at the level of the gated community alone. For example, if we concern ourselves with global climate change, you might say, “Well my gated community will have a very strict recycling programme and carbon taxes to encourage energy conservation”, but that’s not going to solve the problem of global climate change unless you can coordinate similar policies across all gated communities. And that, we know, is one of the classic problems of providing collective goods. How will we produce collective goods for issues and problems that are much greater than the gated communities in which we will be living?

Markets can provide a surprising range of collective goods, for example the transportation system, waste collection, education. There are increased roles already for the private sector in providing things for the community that were once the provenance of central government, but there are limits.

When we look at the military, it’s generally argued that it’s one thing to provide the machines that people use – the arms and supplies that keep soldiers alive – but do we

really want to return to a world of mercenary armies in which the private sector is essentially killing people in the name of a country? Where is the accountability there? If the accountability is simply to markets, is that sufficient? We saw an example of this when guards from private security firms in Iraq killed a number of Iraqi citizens in 2007. That isn’t the way we want to organize that aspect of the common good of security.

One of the worthy things that comes out of a system like this is that markets are very good at allowing people to refine their preferences. If you want something, and somebody else doesn’t, you can find a price to be able to have it. Government services tend to have a “one size fits all” system that may not meet the needs of all citizens. Market provision allows people to satisfy different preferences in a way that is better for everyone.

The problem of course is that some people start out with a lot of “chips”, and are able to use the market. Others start out with nothing and are priced out of the market. This scenario privileges those who have “chips”. So there needs to be ways to set some limits on the initial provision of “chips” to deal with the inequality, before you use the market to maximize gains for all.

Sometimes you can have a nice mix in which the government role is to set the framework for the markets, but the markets do the actual provision. Markets and private sectors are far more efficient at the provision of goods. There is a metaphor – government shouldn’t be rowing the boat. Markets should be rowing the boat, and government should be steering with the tiller.

The ideal is a world in which the bulk of the burden is being carried by private sector actors, and the role of government is one of coordination and management. This doesn’t always work in practice, but at least it gives a reasonable framework within which to think about gated communities. The question to ask then is, “How do we combine the things the markets do best with the things that governments do best?”

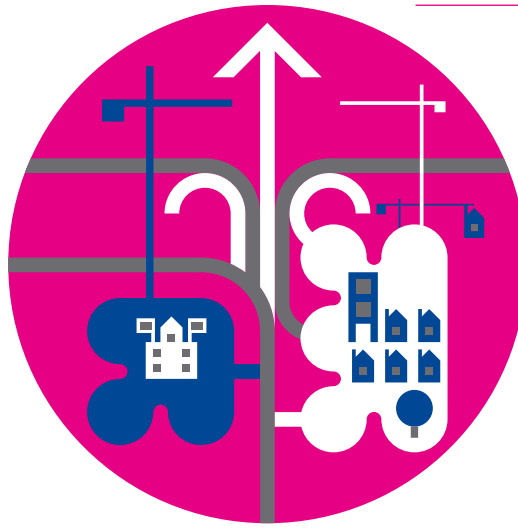
Welcome to the future of Government CityState

CityState is a world in which authority is decentralized to the city level and pragmatism trumps idealism in addressing collective issues.

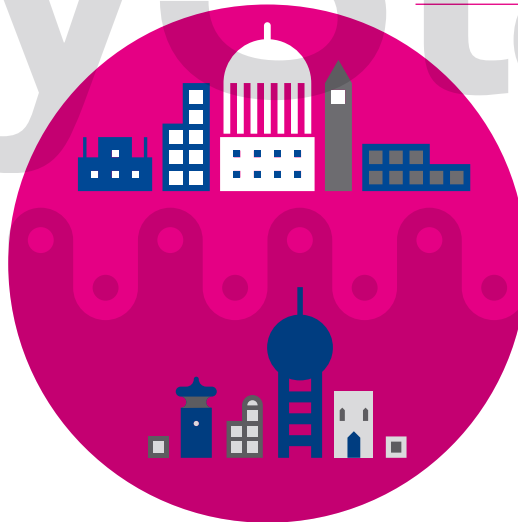
How did we get here?

Urbanization leads to the growth in the number of cities and their size and consolidation. The scale of cities means they can innovate and get things done more easily, which raises their relevance and power vis-à-vis national governments. This is the time of the mayor, who now has political star power.

Strong urban rural divide: Cities and city states become the main centres of political power, given economic interdependence and shared values among people.

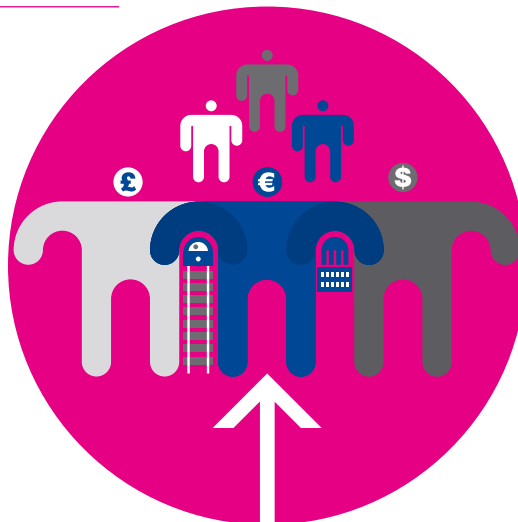


Connections are made between cities into mega-corridors: The consolidation of cities into mega-corridors, which span national and state borders has also led to more autonomous city states. Government has decentralized from national to local authorities with most of these located in the growing number of cities.



Wide diversity of political systems across cities: Citizens identify more strongly with the cities they live in, which provide them with a sense of belonging, rather than concepts such as nation states.

Cities collaborate on local problems: Cities, rather than nations, are centres of innovation as the scale of policy-making and service delivery allows for rapid and responsive change. Collaboration between cities and mega regions on policies and best practices also shapes selected global issues.



What could you be asking yourself in CityState?
How can cities best promote policy and governance innovation?
Is this world prone to conflict?
Is global collective action still possible and, if so, how?
What becomes of national and regional political constructs?
What are the consequences of rising charisma and personality politics?
What will be the impact of migration and how will it be managed?

2050: What if cities ruled the world?

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19 January 2014 | <http://forumblog.org/2014/01/cities-ruled-world/>

Imagine it is 40 years in the future. Government has been decentralized to the city level. Connections between cities consolidate into mega-corridors, which span national and state borders. This is the time of the mayor, whose political star has risen.

The growth in the number and size of cities means they can innovate and get things done more easily. The competitiveness of cities increasingly determines the wealth of nations. This raises the relevance and power of cities, narrowing the gap with national governments.

Cities emulate each other and adopt best international practice (often better than do nations). They are responsible for urban planning and zoning, housing, water, sanitation and policing. The impact of cities in reducing pollution, recycling, meeting carbon targets and mitigating the effects of global warming is often superior to that of most national governments.

The most successful cities, like the most successful nations, have: stable and solid public finances; low, simple and competitive taxation; simple and transparent business regulation; strong and impartial rule of law; openness to international trade and foreign investment; a welcoming environment for “foreign talent”; good “hard connectivity” such as roads, transit systems, ports, airports; and good “soft connectivity” like education, skills and technology diffusion.

Citizens value transparent, accountable and responsive governance in a geographic space to which they can relate. They increasingly identify with the cities they live in, providing them

with a stronger sense of belonging. Economic interdependence and decentralized governance allow for rapid and responsive change. Collaboration between cities and their surrounding sub-regions on policies and best practices also increasingly shapes global issues.

Scenario planning is a structured way of thinking about the future so that strategic action can be taken in the present to encourage the most favourable outcomes. This scenario above – developed with the World Economic Forum’s Strategic Foresight team in collaboration with the Global Agenda Council on the Future of Government – is already part reality.

Three years ago, for the first time in history, over half the world’s population lived in cities. The top 10 cities by population: Tokyo, (34 million), Seoul (24.4 million), Guangzhou (24.2 million), Mexico City (23.4 million), Delhi (23.2 million), Mumbai (22.8 million), New York (22.2 million), Sao Paolo (20.9 million), Manila (19.6 million) and Shanghai (19.4 million) would all fit comfortably into the list top 50 nations by population. There is every reason to think this trend will continue.

The growth of cities was mainly a phenomenon of the West during and after the industrial revolution. But urbanization is now predominantly a non-Western phenomenon. Economic and political power are shifting to cities and megacities outside the West, and to cities in Asia in particular.

Urbanization is also swelling the ranks of the middle classes, again increasingly outside the West. In short, urbanization trends shift economics and,

by association, politics to the cities. A strong implication for this scenario is the impact it will have on the public sector. It will result in the decentralization of government, moving responsibility for policy competence to the municipal level. Another word for that might be fragmentation – the reduction of the authority and fragmentation of central government.

The implications for business are also strong. Increasingly, firms will operate along mega-corridors between cities as part of global supply chains. For multinational companies, cities are already the nodal points which represent value clusters. Companies which operate in the global sphere identify the niches cities offer them and act accordingly. For them, cities, not countries, supply the value chain.

This scenario also sees a widening of the urban-rural divide. Rural and semi-rural areas will lose influence along with revenue – the power of the purse.

Nation states and international cooperation will not disappear. But there is a strong argument for decentralizing power and policy as much as possible to the municipal level. Cities are less bureaucratic and sluggish than higher levels of governance; they are better able to experiment, innovate and diffuse best practice.

If economic and political power flows to CityStates, what are the implications for national, regional and global governance? Would global collective action still be possible? And what becomes of national and regional political constructs? To what level will decentralization and fragmentation go?

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