

Svenja Falk · Andrea Römmele  
Michael Silverman *Editors*

# Digital Government

Leveraging Innovation to Improve Public  
Sector Performance and Outcomes for  
Citizens

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 Springer

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# Digital Government

# Foreword

Digital Government provides huge opportunities for societies and economies alike. A more citizen-centric, transparent, and efficient administration is a prerequisite for social well-being and economic growth. Many countries have embraced this opportunity, but we observe a significant gap between strategic aspiration and implementation in many countries. This book addresses these challenges by framing the context of digital Government, showcasing opportunities, and providing a set of international case studies that exemplify the case. Peter Drucker once famously states “You can only manage what you measure.” This is true in Government also, and I hope that the measurement approach suggested in this book will trigger a discussion that involves Government and academia alike.

We are grateful for the opportunity to work with two leading universities, Hertie School of Governance in Europe and Columbia University in the United States, on this important topic. I am convinced that the book will contribute to important debates on digital government, its implications for operating models, and workforce development in the public sector. We strongly believe that collaboration and exchange enable us to get deeper insights and to make better decisions.

Accenture  
Paris, France

Bernard Le Masson

# Foreword

*Digital Government: Leveraging Innovation to Improve Public Sector Performance and Outcomes for Citizens* explores how advancements in digital information technology hold profound implications for governments and citizens alike, including many benefits but also heightened complexity and challenges. Why is this important? We live in an era where digital technology is profoundly reshaping our personal and public lives. Ideas and events can be communicated to and witnessed by global audiences within seconds. Data, the internet, smartphones, mobility, and the cloud are transforming the relationship between policy makers and the public. Easier access to government information and officials and the ability to access and analyze information in real time have brought many governments much closer to their citizenry. This provides positive benefits in terms of improved governance, efficiency, participation, and education that are vast and exciting. At the same time, there is a dark side. Governments and citizens face increased risks and challenges from cybersecurity and cybercrime, issues around what constitutes lawful use of data, threats to personal privacy, and the daunting task of coordinating policies and approaches across jurisdictions.

*Digital Government: Leveraging Innovation to Improve Public Sector Performance and Outcomes for Citizens* also reflects an important area of growing inquiry for Columbia University's School of International and Public Affairs (SIPA). In 2014, we launched a multidisciplinary effort—Tech and Policy @ SIPA—to explore the increasing impact of digital technology on public policy and its broad effects across society and the global economy. This SIPA effort brings together expertise across our campus and internationally around technology and policy issues. It includes a new technology-focused curriculum to help students build critical skills and technological awareness, funding for student projects in support of entrepreneurship that leverage data and ICT to solve global urban problems, and new interdisciplinary research around issues such as internet governance, cybersecurity, the digital economy and digital trade, and civic technology and innovation. By equipping the next generation of public policy practitioners and scholars with a deeper understanding of how digital technology can be utilized to support public policy, by nurturing organizations that are building novel, tech-based

solutions to pressing global public policy problems, and by supporting cutting-edge interdisciplinary research, SIPA is stimulating a host of creative endeavors at the intersection of technology and public policy.

Four of the country case studies featured in *Digital Government: Leveraging Innovation to Improve Public Sector Performance and Outcomes for Citizens* were developed by our workshop students with Michael Silverman, their faculty advisor, serving as a coeditor. These country cases illustrate the diverse opportunities that a digital government can offer, including improved access to government services in India and Mexico, increased government transparency in Brazil, and expanded broadband access in the United States. These cases were developed in SIPA's *Workshop in Development Practice*, one of our flagship capstone programs for our second-year Masters' degree students. We are grateful for the support and collaboration of Accenture Research in the workshop and the Hertie School of Governance in this publication.

Access to digital information technology offers the potential for extending opportunities for education and economic development to individuals in many poor countries. Yet the potential of digital information technology also raises a number of critical issues that affect the lives of all citizens and pose a significant challenge to public policy makers. As the book documents, digital government raises issues such as cyber security, privacy, and the emergence of big data and cloud technology that transcend national boundaries and raise new policy challenges. It also can accentuate differences and gaps within societies based on citizen access to and familiarity with the internet. These concerns are further complicated by the current multiple stakeholder approach that is the foundation of the global internet, where no single governmental or private sector entity has control over this technology and where the internet is facing fragmentation.

For scholars and students at global schools of public policy such as SIPA, the policy opportunities and challenges associated with the dispersion of digital information technology are both formidable and incredibly exciting. These issues are at the cutting edge of globalization and technological change. We welcome the insights provided in this timely volume and look forward to future scholarship in this area.

Columbia University  
New York, NY  
USA

Merit E. Janow

# Foreword

Digitalization leads to governance challenges in many sectors of society, most strikingly in state and public administration, business, and civil society. The shape and extent of such challenges vary and depend on perspectives. In the public sector, for instance, digitalization might lead to a worrying decline in the state's capacity to analyze, regulate, coordinate, and deliver its vital services. Looking from a business perspective, digitalization will presumably change the workplace in such a profound way that it might threaten existing professions and open the way up for new ones. And for civil society digitalization will change the ways and means of social self-organization, particularly through innovations in communication technology. This volume addresses many of these issues, both highlighting dangers and potentials. It also provides practical ideas to solve arising problems and to make most use of the vast possibilities for innovation and creativity digitalization bears.

Digitalization may be a challenge, but it may just as well be a chance. Democracy, transparency, accountability, and freedom are just four fields in which digitalization may change the world for the better—and this book aims to shed light on them.

It also unites ever so many qualities and approaches the Hertie School of Governance proudly represents. Firstly, the Hertie School is convinced that cultural and academic diversity enriches any piece of work and that joint productions can produce excellent international contributions. This is why I am particularly excited to present a joint product with our long-standing partners Columbia University and Accenture Research. Columbia University is a wonderful partner we traditionally cooperate with in many ways. We provide each other's students with the opportunity to enjoy the privilege of a dual degree program, and our faculties engage in fruitful intellectual exchanges. Also, as Dean of a public policy school, I highly appreciate the growing collaboration we have with Accenture Research. One of our general aims is to get connected to other societal sectors and increase our reach, which we believe to be fundamental for policy-oriented education. Accenture as a multinational company for consulting and technology services has been a delightful partner to share practical and theoretical expertise with.



I would like to stress one other quality the Hertie School stands for: the extraordinary quality of student research, which makes this book an important contribution to the field of digital governance. The value of this book can be attributed to the hard work of students who were able to contribute and enrich this publication with their own case studies from all over the world. The Hertie School of Governance has always been striving to provide students with excellent conditions for work and research so that great results can be produced.

The book at hand is one of them.

Hertie School of Governance  
Berlin, Germany

Helmut K. Anheier

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**Part I**  
**Theory and Foundations of Digital**  
**Government**



# The Promise of Digital Government

Svenja Falk, Andrea Römmele, and Michael Silverman

“Digital” is everywhere. More than 900,000 articles including the word *digital* being published in the last 3 months<sup>1</sup> are testament of an impressive career. Independent of context, the term “Digital” stands for an eclectic potpourri of assumed positive and negative social and economic outcomes. Positive assumptions imply that “digital” can open up new opportunities and provide solutions to many challenges that companies and societies are facing today.<sup>2</sup> The pessimistic view assumes that digital technologies will destroy jobs, making human labor redundant, causing unseen disruption in social and political life.<sup>3</sup>

The case in business seems comparatively clear—we can already see, especially in the business to consumer space, how digital provides more tailored and cost effective services to customers based on a granular understanding of their needs, revolutionizing production and radically transforming operations and governance.

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<sup>1</sup>Factiva Search in English speaking newspapers and online journals from March 26th, 2015 to May 25th, 2015.

<sup>2</sup>Accenture Technology Vision 2015.

<sup>3</sup>Oxford professors Carl Benedikt Frey and Michael A. Osborne estimated that almost half (47 %) of total US jobs are at risk due to computerization. McKinsey’s Global Institute predicts that about 140 million knowledge worker jobs are about to disappear in the digital age.

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Digital technologies have already disrupted many industries like retail, travel, media and entertainment and others. Nevertheless, companies and policy makers alike are yet to understand the underlying business models and avenues to monetize digital in many other areas like the internet of things or smart services.<sup>4</sup>

In government, however, the case is even less obvious. Digital seems to blend with discussions around open data, big data, broadband policy, digital inclusion or -entrepreneurship, or whole-of- government transformation, resulting in a lack of clarity. Nevertheless, enthusiasm about digital is high among politicians and policy makers alike.

## 1 Strategy Inflation

Many countries have launched digital strategies in the last 2 years, but definitions of digital vary from being an umbrella term for a set of technologies and their applications ("SMAC"), a new way of public service delivery up to a holistic concept of a digital society or economy.

The desired outcomes in the strategies vary, depending on policy priorities of a country or institution:

---

<sup>4</sup>Accenture worked in partnership with the National Academy of Science and Engineering and with more than 70 German companies, business associations, labor unions and the best German industrial and IT universities to develop a vision on how to compete in the digital future on a global level. The group focused on business models, the regulatory environment and the people side. On the digital enterprise side, the group predicts the emergence of a new type of Software Defined Platforms to connect intelligent products during operations and the emergence of "Everything as a Service" bundles of products and smart services.

This public private partnership supports Germany's goal to become the number one country in Europe in terms of digital growth. With its first strategic initiative "Industrie 4.0", Germany has already taken an important step towards being the first country to tap into the potential of this new form of industrialization. Now, the second strategic initiative, entitled "Smart Service Welt", is focusing on the value chains that incorporate the smart products made by Industrie 4.0 once they have left the factory. Smart products are combined with physical and digital services to create smart services that then can be marketed as a flexible, on-demand service. The disruptive impact of smart services is already visible in retail, for example in online marketplaces. However, the changes are also affecting the traditional business models of Germany's flagship industries, such as the automotive, mechanical engineering, chemicals, electrical engineering, medical technology, logistics and energy technology industries, not to mention the rest of the economy.

### Digital Strategies

Country	Launch	Objective	Approach
<a href="#">USA</a>	(May 2012)	Efficiency, cost reduction, citizen centrality and security	Builds on four main areas (information-centricity, customer-centricity, shared platform, security and privacy) to lay the foundation for a radically different way in which government applications and services will be developed, focusing on leveraging data through web API, on building reusable and interoperable web services, on separating a data, a platform and a presentation layer to allow services to be deployed through the most convenient channel.
<a href="#">UK</a>	(November 2012)	Cost cutting and efficiency increases	Digital information at the heart of its strategy, rather than being ancillary to service provision. All new government services are required to be digital, a set of existing ones have to be transformed.
<a href="#">Europe</a>	(2010; revised December 2012)	Competitiveness and growth	7 key areas for further efforts to stimulate the conditions to create growth and jobs in Europe: <ol style="list-style-type: none"> <li>1. Create a new and stable broadband regulatory environment.</li> <li>2. New public digital service infrastructures through connecting Europe facility loans</li> <li>3. Launch grand coalition on digital skills and jobs</li> <li>4. Propose EU cyber-security strategy and directive</li> <li>5. Update EU's Copyright Framework</li> <li>6. Accelerate cloud computing through public sector buying power</li> <li>7. Launch new electronics industrial strategy – an "Airbus of Chips"</li> </ol>
<a href="#">Singapore</a>	2011-2015	Collaborative government	<ul style="list-style-type: none"> <li>• Co-creating for greater value</li> <li>• Connecting for active participation</li> <li>• Catalyzing whole-of-government transformation</li> </ul>

Source: Country Strategies

In many cases in fact, governments have launched more than one digital strategy. Australia, for example, launched three strategies between 2011 and 2013: the “Australian Public Service Information and Communications Technology Strategy” (2013), “Advancing Australia as a Digital Economy—An updated National Digital Economy Strategy” (2012) and a “Cyber Security Strategy” (2011). Both the US and the UK formulated a total of five strategies focusing on economic development, public sector reform, cybersecurity and inclusion.

In Germany, eight ministries at the federal level have been tasked with implementing different aspects of the three strategies in place there. Economic development, for example, is being looked after by both the “Federal Ministry for Economic Affairs and Energy” as well as the “Federal Ministry for Transport and Digital Infrastructure”. Security questions are on the table in five ministries. Complexity of the governance is poised to increase; Germany launched a “Digital Agenda” in August 2014, focusing on a holistic digital transformation of the country with oversight not yet being defined.

Having multiple plans owned by different departments is the rule in digital government today. When it comes to implementation, different departments are getting involved, resulting in overlap and increasing coordination efforts, often without an oversight institution being in place. As we show in this book, taking implementation down to the program and/or institution level is even more disconnected.

The “return to digital” is assessed today only in a patchy manner. The National Audit Commission in Australia or the US Office of Budget and Management, for example, are assessing how the government is doing against plan, but are not talking about social or economic outcomes. The UK looks through the lens of cost reductions and efficiency increases, assuming savings of 200 million pounds related to digital. Germany has yet to evaluate the return on digital.

## 2 What Is Digital: Different or More of the Same?

Some commentators proclaim a digitally enabled new age in government, whereas others feel it is nothing more than a continuation of the E-Government paradigm and therefore just old wine in new skins. The first wave of eGovernment happened in most countries of the world in the 2000s, both in mature and emerging economies.<sup>5</sup> Primary focus then was on the online provision of services rather than a concept of digital transformation. Digital government is a more comprehensive

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<sup>5</sup>In 1997, for the first time ever, the United States’ administration articulated the idea of online citizen service in their National Performance Review “Access America: Reengineering Through Information Technology”. And indeed, the US portal, then called FirstGov went online in 2000 with the intent to provide all government information online. Governments across the globe published their eGovernment strategies in the beginning of the 2000s:

- The UK publishes their first strategy in April 2000. The document “eGovernment: a strategic framework for public services in the Information age” talks about the need for a common infrastructure, urges public sector units to modernize and innovate.
- France publishes their reform program “Governmental Action Plan for Information Society” in 1998.
- Singapore published their “eGovernment action plan” in 2000, with a strong spin on the competitiveness acceleration through focusing on the transition to the knowledge economy.
- South Africa launched their eGovernment strategy Electronic Government Framework Electronic Government—The Digital Future: A Public Service IT policy in 2001.
- India the Dept of IT and Dept of Administrative Reforms and Public Grievances (DARPG) prepared a National governance action plan which was presented to the Prime Minister in 2003.



concept and is uniquely distinct from the eGovernment across a number of dimensions. The possibilities offered by the nexus of forces from SMAC technologies could be far more powerful in enabling a whole of government transformation.

### 3 Opportunities

Governments see huge opportunities in digital and are making significant investments. Enablers to capitalize on the opportunities are the deployment of technologies through dedicated government organizations (US), innovation in service delivery (UK), a more transparent government (India) or more collaboration between government and citizens to enhance innovation (Singapore).

- **Citizen Service and Innovation:** The US Government anticipates significant service enhancements through a focus on IT tools, processes and organizations. The Digital Services Innovation Center as a branch of GSA, as well as a Digital Services Advisory Group within the White House is advising government entities to implement the strategic change.<sup>6</sup> There is a strong focus on a mobile digital strategy: agencies should “optimize at least two existing priority customer-facing services for mobile use and publish a plan for improving additional existing services.” Many of the US agencies now have at least two mobile apps which can be found on an official website Apps.usa.gov. Agencies also find case studies and advice how to implement the mobile strategy.
- **Cost Savings:** The UK Government assumes significant savings as a result of their “digital by default” strategy. The bottom-up methodology yields an annual saving estimate from this shift to digital by default as £1.8 billion.<sup>7</sup> Savings result from reduced cost of service provision: For some government services, the average cost of a digital transaction is almost 20 times lower than the cost of a telephone transaction, about 30 times lower than the cost of postal transactions and about 50 times lower than a face-to-face transaction.<sup>8</sup>
- **Jobs and Growth:** European policy makers anticipate that the full implementation of the digital agenda would increase European GDP by 5 %, or 1500 € per person, over the next 8 years, by increasing investment in ICT, improving eSkills’ levels in the labor force, enabling public sector innovation, and reforming the framework conditions for the internet economy. In terms of jobs, up to one million digital jobs risk going unfilled by 2015 without pan-European action while 1.2 million jobs could be created through infrastructure construction. This would rise to 3.8 million new jobs throughout the economy in the long term.<sup>9</sup>

<sup>6</sup><http://gsablogs.gsa.gov/dsic/strategy-milestones/>

<sup>7</sup><http://publications.cabinetoffice.gov.uk/digital/efficiency/#fig-1>

<sup>8</sup><http://publications.cabinetoffice.gov.uk/digital/efficiency/#fnref:1>

<sup>9</sup>[http://europa.eu/rapid/press-release\\_IP-12-1389\\_en.htm](http://europa.eu/rapid/press-release_IP-12-1389_en.htm)