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Government 4.0 – the public sector in the digital age

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Government 4.0 – the public sector in the digital age

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Just like private companies, public authorities are under pressure to digitize their service offer and internal processes. The opportunity for efficiency gains is huge, both for government agencies and private players. Digitization also holds the promise to expand the participation of citizens in public processes. But digitizing an entity as large and as complex as the public sector is an enormous transformation task. What is more, the "digitization of everything" creates a host of new policy challenges for governments. In this article, we examine the digitization of public administration, the automation of public sector workflows, and policy issues ranging from structural changes of the job market to cybersecurity. While we look abroad for examples and inspiration, most of our observations and inferences relate to Germany.

DIGITIZING PUBLIC ADMINISTRATION

Public authorities typically interact with a large number of customers on the basis of highly regulated and standardized processes. Digitization offers tremendous opportunities for improving the customer service experience and freeing up resources tied up in repetitive tasks. Public authorities also collect and keep troves of data. Putting this treasure to use can lead to smarter decisions in day-to-day operations of state agencies and government.

Improving public services

The potential for improving the service experience of citizens and companies through digitization is huge. If paperwork were eliminated from the most common service transactions, German citizens could gain a total of 84 million hours of free time per year. Companies would save EUR 1 billion in administrative cost per year (Exhibit 1).[1] And this potential is anything but theoretical. Countries like Estonia lead the way. Only three types of services still require Estonians to interact with a civil servant face to face: weddings, divorces, and real-estate transactions. Everything else is digitized.

1 Nationaler Normenkontrollrat (2017): Mehr Leistung für Bürger und Unternehmen: Verwaltung digitalisieren. Register modernisieren, p. 16

Admittedly, digitizing public service interactions is a complex challenge that requires coordination between different levels of government. The most successful individual agencies focus on customer needs and implement the same agile "test and learn" practices that private online giants use.[2] But changing ways of working in public agencies, and the mindsets of public servants, is not enough. Agencies and municipalities depend on the national government to provide the right conditions for them to succeed. Our research and global experience with digital transformations in the public sector suggest that there are five core tasks that national governments can perform to facilitate the launch and adoption of digital public services:[3]

- Set an overarching digital strategy and define targets
- Provide common IT platforms
- Define technical standards
- Facilitate change through legislation
- Underwrite and support pilot projects that help public authorities build crucial digital skills.

Automating business processes

Once public authorities have digitized the service "front end" of administration, the logical next step is to automate case processing in the "back end." This can free up employee capacity for more complex tasks such as personal counseling of customers. The potential for efficiency gains is significant: in Germany, public authorities could save 59 percent of all work hours spent processing cases by introducing new technology and adapting workflows accordingly.[4]

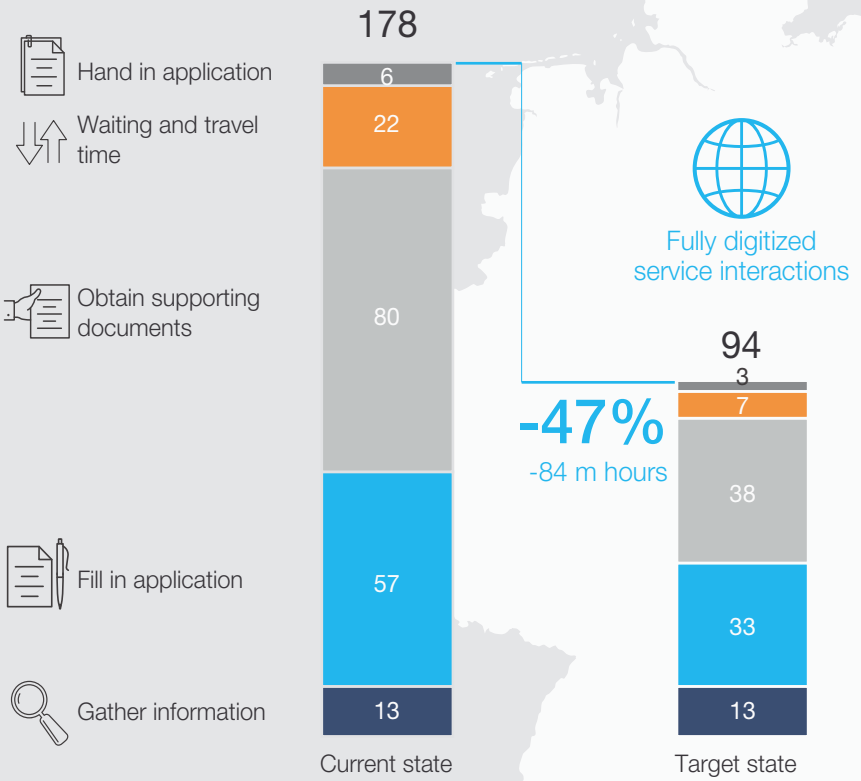
2 For details, see our article „The five trademarks of agile organizations"

3 For details, see our article "Digitizing the state: five tasks for national governments"

4 Nationaler Normenkontrollrat (2017): Mehr Leistung für Bürger und Unternehmen: Verwaltung digitalisieren. Register modernisieren, p. 16

Exhibit 1
Digitization of public service interactions can save citizens significant time

Time German citizens spend applying for top 35 administrative services[1], million hours per year



1 Assumption: 80% utilization rate of digital services offer

Automating business processes requires a differentiated approach: processes that follow clear "algorithmic" rules and have a large case volume – such as the calculation of unemployment benefits – can be fully automated. Processes that involve extensive interaction with customers (or within the organization) call for a more flexible approach. For these processes, leading agencies use a variety of IT tools that assist employees in completing their tasks. Examples of such tools include "360 degree" customer profiles that show all relevant information about a customer in one place, or process widgets that take over simple repetitive tasks such as retrieving information from databases.

Making smarter operational decisions

Public authorities often have more systematic data management practices in place than private sector organizations. The information they keep about customers and service interactions can be a valuable source of insight for the improvement of operational processes. For example, tax authorities can use big data analytics to identify tax returns that are most likely to be erroneous or fraudulent and single these out for detailed review by specialists.[5] Labor agencies can leverage customer information to predict which individuals have the highest risk to remain unemployed for a longer period of time and select the most effective interventions for a specific person. The McKinsey Global Institute estimates that the European public sector could save hundreds of billions of euros every year by implementing big data analytics.[6]

In order to use big data analytics successfully, public authorities need to overcome certain inherent challenges. Established processes for data access, IT updates, and legal clearance are often too formalized and too slow to let public authorities keep pace with the evolution of digital technology. And the design of analytics solutions often requires input from a wide

5 Similar tools are used by insurance companies to process, prioritize, and review insurance claims. See our articles on "The insurer of the future" and "Artificial intelligence – how advanced analytics and smart machines will change the way we work"

6 https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/big-data-the-next-frontier-for-innovation (retrieved in January 2018)

range of business and technical functions that normally work in organizational silos. To overcome the limitations of established processes and structures, it is necessary to start and drive implementation from the top. An influential sponsor, such as a cabinet member of the head of an important agency, can accelerate the required process steps and establish a project setting that permits agile collaboration of the units that need to be involved. Our experience also shows that it is helpful to formulate a communication strategy to explain to employees and external stakeholders what data will be collected, how it will be stored and processed, and what purposes it will be used for.

Increased use of big data analytics frequently gives rise to questions regarding the proper protection of personal information. Public authorities should make sure that they comply with applicable laws, such as the new General Data Protection Regulation in the EU, without establishing unnecessarily burdensome internal processes. Wherever possible, they should establish opt-in or opt-out mechanisms for citizens and provide transparency about which data has been used. The German government, for example, plans to create a national public service user account that lets citizens decide which data public authorities can use for delivering services and provides information about data requests.

NEW POLICY CHALLENGES FOR THE STATE

Digitization is not just an internal challenge for the state. Governments also need to react to the ongoing "digitization of everything" in their role as policy makers to promote prosperity and protect freedom. While digitization holds many opportunities for growth, it can also endanger the safety of citizens and the integrity of public infrastructure. In short, a wide range of new challenges is emerging. In what follows, we discuss three of the most important.

Promoting and regulating the digital economy

Digitization has a big impact on national economies. Value pools shift within and across industries. The economic champions of today will not necessarily be the champions of tomorrow. Governments need to take precautions to ensure that start-ups and established compa-

nies can create new business models and digitize their existing operations. The public sector, including the education system, can play an important enabling role in three areas:

- **Human capital development.** New technology requires new skills. Public authorities can help educate the digital workforce of the future and enhance the capabilities of today's employees in areas such as digitization, data wrangling, and analytics. The City of Montreal, for example, has devised a strategy that combines increased support for its universities with an immigration policy designed to attract and retain top technical talent from abroad.[7] Leading universities, such as Harvard or the Massachusetts Institute of Technology (MIT), are developing broad, multidisciplinary programs to ensure that traditional professionals, such as medical doctors, acquire a solid knowledge of computer science and data analytics.

- **Regulatory enablement.** New digital and data-driven business models often do not fit neatly into the existing regulatory environment. Uncertainty regarding the question how existing rules will be enforced, or how regulation will change, slows down innovation. To enable and accelerate the testing of new products and services, some countries have created so-called regulatory "sandbox" environments. For example, the Financial Conduct Authority (FCA) in the UK provides FinTech start-ups with a fast track to authorization, as well as with waivers or modifications of existing rules, for testing their ideas with real customers. To date, more than 50 companies have participated in the program.

- **Support for innovation ecosystems.** Cities and countries are making coordinated efforts to cultivate innovation clusters. London has invested heavily in its Tech City, also known as "Silicon Roundabout." To build a critical mass of tech start-ups, the city provides support especially to growth-stage companies, canvasses feedback from start-ups to inform policy, and promotes the importance of the digital economy in public discussion.[8]

7 http://www.sdemontreal.com/en/collaborative-spaces/talent

8 http://www.techcityuk.com/

Routing people into the jobs of the future

Digitization is transforming the job market. With today's technology, half of all activities could be automated. Each automated job could create 2.4 new jobs. But these new jobs will require new skills. According to estimates by the McKinsey Global Institute, this means that up to 375 million workers worldwide may need to change occupational categories until 2030 (Exhibit 2).[9] For details, see our article "Artificial intelligence – how advanced analytics and smart machines will change the way we work".

Getting ready for the jobs of the future is, of course, primarily up to workers themselves. Employers also have an interest to promote people development as their workforce needs to change over time. Governments can support this process. The German Labor Agency, for example, is piloting a new "lifelong occupational counseling" service. Customers of the agency –from college graduates who look for orientation to older employees who seek to remain employable– will have access to a range of personal and digital counseling services. Overall, the new offer could eventually target 3.4 million potential customers in prioritized target groups. The objective is to reduce skill shortages and prevent unemployment by helping customers pursue careers that are in line with their interests and strengths, as well as with skill demand in a job market that is changing radically.

Keeping the nation safe in cyberspace

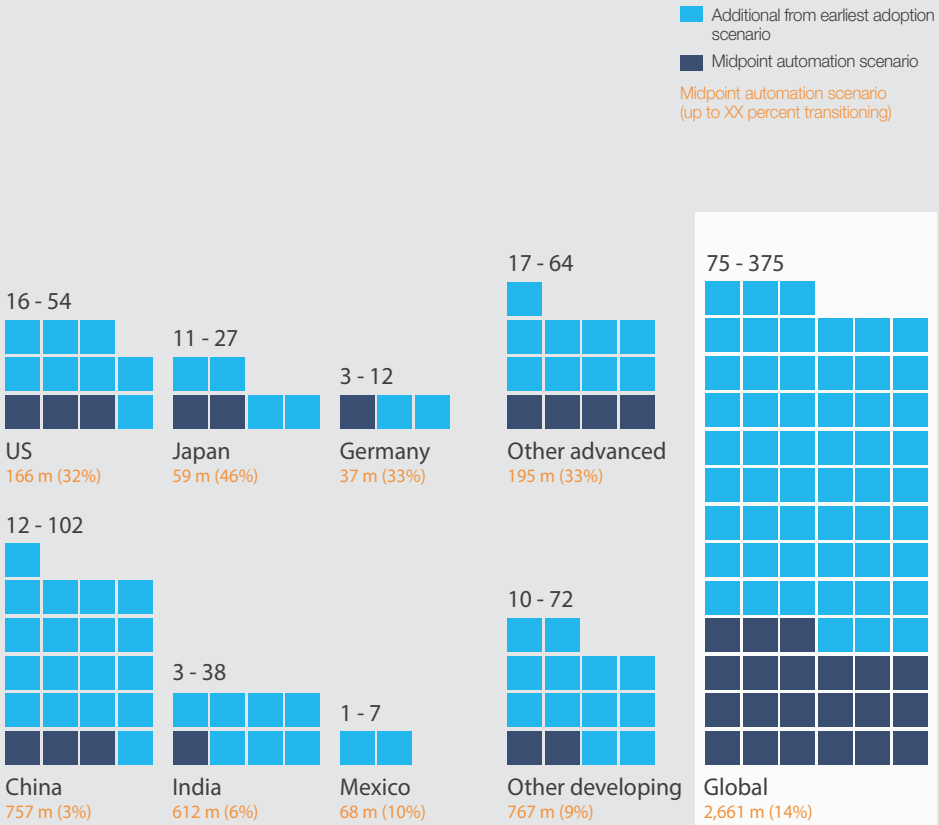
National security is increasingly dependent on cyberdefence. Public and private agents can cause significant damage to crucial institutions and infrastructure, at costs that are comparably low relative to traditional warfare. The insurer Lloyds estimates that a serious cyberattack on a major cloud services provider could lead to damages of up to USD 120 billion.[10] At the same time, defence equipment itself is increasingly connected and thus vulnerable to hacking.

9 MGI (2017), Future of Work

10 https://www.theguardian.com/business/2017/jul/17/lloyds-says-cyber-attack-could-cost-120bn-same-as-hurricane-katrina

Exhibit 2
Globally, up to 375 million workers may need to switch occupational categories

Number of workers needing to move out of current occupational categories to find work, 2016 - 30 (trendline scenario)[1], millions (1 block = ~ 5 million)



1 Assumption: 80% utilization rate of digital services offering
Source: U.S. Bureau of Labor Statistics; McKinsey Global Institute analysis

To rise to these challenges, many governments establish dedicated cyberdefence branches alongside land, air, and sea forces. It is crucial to recruit sufficient talent for these organizations. The German Armed Forces, for example, are seeking to rebrand themselves as an attractive employer for technologically savvy applicants. A major PR campaign – focused on digital channels such as YouTube – emphasized this theme. It led to a 21 percent increase in overall job applications.

At the same time, the military needs to leverage technological innovation to keep its cyberdefence capabilities up to date. Start-up incubation hubs can help founders to build a network with relevant public servants and understand the procurement needs of the armed forces. This, in turn, speeds up public access to new technology that enables the military to maintain a balance of capabilities with potential attackers in cyberspace.[11]

IMPLICATIONS FOR DEMOCRACY

Last not least, digitization poses new challenges, and creates new opportunities, for democracy as a form of government.

Access to the Internet is a source of opportunity and empowerment. But if you do not have access to the Internet, your chances to participate in political and economic processes is inhibited. As a consequence, the distribution of Internet access has become an important dimension of inequality. For example, in the United States, five million schoolchildren have no broadband Internet access.[12] This puts them at a significant disadvantage with regard to completing their homework and studying for exams. Democratic societies that aspire to create equal opportunities for all citizens need to close such digital gaps.

11 For details, see our article “A new posture for cyberrisk in a networked world”

12 Unicef – The State of the World’s Children 2017

Another challenge is the digital transformation of the public sphere. Two thirds of adult US Americans get at least some of their news from social media.[13] Democratic governments are under pressure to contain the spread of "fake news." At the same time, online media can breed political polarization, as social media tend to present users with content they agree with, leading to the emergence of so-called "filter bubbles." To preserve a healthy public discourse, adaptations of educational curricula and the regulations that govern online news media are needed. For example, German lawmakers have implemented an obligation for social media platforms to identify and delete "fake news."[14]

Digital tools can also be a boon for democracy. The national parliament of Brazil, for example, is successfully using an online platform to involve citizens in drafting legislation. 37,000 registered users participate in 17 virtual communities focusing on topics that range from corruption to sports policy. The City of Paris has set aside EUR 100 million in its annual budget that citizens can allocate in an online process – from project proposal to final voting. Examples like this demonstrate how digital tools can invigorate the democratic process. Governments can use online platforms to inform citizens, solicit ideas and expertise from them, and enable them to deliberate, take decisions, and monitor government policies.

THE FAST EAT THE SLOW

In most countries, public sector expenditure represents 35 to 60 percent of GDP.[15] This means that the digital transformation of the state is the biggest of all digital transformations. Given the diversity of the issues to be addressed, we hesitate to propose general recommendations for governments to heed. However, there is one important rule that applies to all digitization efforts, irrespective of the particulars: in the digital world, the fast eat the slow. State bureaucracies are often ill adapted to speedy change. As a result,

13 Pew Research Center (2017). News Use Across Social Media Platforms 2017. (http://www.journalism.org/2017/09/07/news-use-across-social-media-platforms-2017/)

14 https://www.washingtonpost.com/world/europe/how-do-you-stop-fake-news-in-germany-with-a-law/2017/04/05/ (retrieved in January 2018)

15 OECD (2018), General government spending (indicator). doi: 10.1787/a31cbf4d-en (etrieved in January 2018)

there is often a huge gap between the quality of online services delivered by private companies and those provided by the government. The speed of the Internet revolution has simply been too high for public administration to follow. Likewise, the emergence of new digital business models and the redrawing of industry boundaries happen at an astounding pace. Few people had heard about “fake news” before the 2016 US presidential election. Today, it is considered a threat to democracy everywhere. Only those countries that react to these developments quickly enough will be able to thrive in the digital age. State bureaucracies will need to adapt their ways of working. Fast progress requires agile, interdisciplinary teams that can drive an initiative from idea to implementation quickly. While that may not be possible in each and every context, examples such as the redesign of the German refugee administration within 18 months following the crisis in the summer of 2015 show that it is not unthinkable.

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