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Gov2020: A Journey into the Future of Government

Global Public Sector | Thinking people

Introduction

Welcome to Government 2020. The purpose of this project is to help leaders from all sectors make sense of the rapidly changing demographic, societal, economic, and technological trends shaping our future. Gov2020 isn't a crystal ball but it does pull together some of our best Deloitte research and expertise from across the globe to start a discussion on what is probable, and even more importantly, what is possible for those who are most willing to embrace change.

Gov2020 is meant to be a starting point for governments wishing to engage with the future. It provides policy makers with some provocative ideas about what is possible and a catalyst to evaluate whether they are ready to embrace a future that should be very different from today. Effectively responding to the drivers of change and shifting needs of citizens will challenge virtually every process, system and structure of government.

Gov2020 is the culmination of an extensive exploration of the drivers that are influencing the future of education, human services, defense, transportation and more and the impact those forces of change might have on government and society at large.

Gov2020 brings together in one easily navigable place a rich source of analysis, video and creative visualizations about the future of government. On the website you can explore:

- **39 drivers** that will influence the way government operates and serves its citizens

- **194 trends** that represent the shifts that are likely or at least possible by 2020

- **15 videos** depicting major new developments, from the future of government work to the impact of 3D printing

- **15 infographics** illustrating new capabilities like digital age transportation and a sensor- enabled world

This project draws from hundreds of interviews conducted by dozens of colleagues over a multi-year period with leading experts from around the world. Much of the research resulted in in-depth Deloitte studies covering everything from the transition to digital age transportation to what a system of virtual incarceration might look like.

The confluence of several factors—demographic, socio-economic, and technological—will influence what happens in the future and ultimately, how governments evolve to meet citizens' changing needs. Understanding these factors or 'drivers of change' and their potential impact is the first step in preparing for the future.

The Drivers of Change

Demographic Drivers: Demographic changes will have a significant impact in 2020. The aging population will dominate many policy and workforce discussions in the West, while population growth will continue to slow across most developing nations. The world is in the midst of a massive, long-term shift in wealth, economic power and population growth from West to East. As Asian areas outgrow their western counterparts, new political, social and consumer constituencies start flexing their power on the world stage.

Globally, the improved socio-economic status of women will bring billions more people into the formal workforce in the future. Megacities burgeon across the globe, while increased global migration leads to mingling cultural identities and the rise of the truly global citizen.

Societal Drivers: Society grapples with the undesirable effects—security and privacy concerns—of a hyper-connected, digital lifestyle. Governments are faced with a balancing act: using the latest technologies to meet the rising expectations of hyper-connected citizens, while still reaching those offline. Citizen-consumers, empowered by information and technology, play a bigger role in societal problem solving as well as in fighting corruption. Unprecedented advances in health care, neuroscience, technology computing, nanotechnology and learning begin to allow human beings to expand their physical and mental faculties. However, potential innovations that enhance cognitive capacity also pose new regulatory and ethical challenges for business, government, social institutions and international organizations.

Economic Drivers: Building off the early bitcoin example, currencies will take on new digital and data-based forms in the near future. Social consciousness surfaces as a common theme, with more organizations and citizens contributing to societal change and driving a renewed sense of openness, innovation and empowerment. Governments grapple with fiscal stress, infrastructure bottlenecks and rising income inequality among citizens. But even while disparities between rich and poor persist, scarcity of basic requirements such as food, water, energy, healthcare, housing and education will begin to get addressed as technology raises the basic standards of living for many.

Climate change remains a major concern in 2020 and differing national policies concerning the sale and ownership of natural resources become a top priority area for international organizations such as the UN and World Economic Forum.

Digital Technologies: The digital revolution hinges on the convergence of four prominent technologies—social, mobile, analytics, and cloud—collectively called SMAC. In 2020, social networks penetrate all realms of life as individuals and governments explore new ways to tap into the power of the crowd using advanced analytics and sentiment analysis. Mobile devices of all shapes and sizes, including wearables like watches and glasses, keep millions around the world constantly connected, entertained and informed. Mobile tools revolutionize health care and education while mobile payments via Near Field Communications (NFC) become the norm.

Cloud computing accelerates the capabilities of technologies like mobile and analytics. Remote computing services allow mass collaboration around huge data sets, bringing affordable scale to computationally intensive problem-solving. Advanced algorithm design and faster computing, along with a growing cadre of data scientists, unlock value from digital exhaust, influencing decision making by governments, corporations and individuals alike.

Data is viewed as a tradable asset: by 2020, most consumers collect, track, barter or sell their personal data for savings, convenience and customization, making information a currency in the truest sense.

Exponential Technologies: "Exponential technologies" have a far-reaching, transformative impact across geographies and industries. These technologies represent unprecedented opportunities and existential threats; but their wide-ranging impact is indisputable. Developments in "additive" manufacturing, or 3D-printing, spur a second industrial revolution. Falling prices of 3D printers, coupled with growing expertise and new applications, increase the demand for and availability of this technology.

2020 sees robotics gain momentum and become vital components in a number of applications. From swarms of "microbots" to self-assembling modular robots to strength-enhancing robotic exoskeletons, applications using robotics cut across industries and transform the way work is done. Robots paired with Artificial Intelligence perform complex actions and are capable of learning from humans, driving the intelligent automation phenomenon. The centuries' long quest to develop machines and software with human-like intelligence moves closer to reality. Scientists develop intelligent machines that can simulate reasoning, develop knowledge, and allow computers to set and achieve goals, moving closer to mimicking the human thought process.

Cyber-physical systems technologies: Previously, computers were embedded in stand-alone and self-contained products. With the advent of the web, these embedded computers became networked and are evolving into cyber-physical systems (CPS) that sense, monitor, and control the human and physical environment. This feedback loop of sorts in which embedded computers and networks control the physical processes, and physical processes in turn affect computations hold tremendous economic and societal potential. These "smart" systems permeate into the infrastructure around us.

In 2020, unmanned aerial vehicles or drones contribute to domestic policing, geographical surveys, maritime patrol and delivery of goods, among multiple other commercial and military applications. The future also promises radical improvements in augmented reality technology with the introduction of gestural interfaces and sensory feedback that fuses the physical world with digital information. As the size and cost of sensors and communication technologies continue to decline, the "Internet of Things" (IoT) grows by leaps and bounds. Businesses and governments struggle to integrate this evolving technology, using analytics to winnow insights from the treasure trove of data that improve delivery models in health care, transportation, security and defense, infrastructure management and many other areas. The exponential growth of the IoT could prove to be a regulatory headache, forcing governments to keep pace with the ever-changing technology.

These drivers will influence government differently. However, these seven mega shifts are more likely to be seen across government and have transformational effects.

The Seven Mega Shifts

Across the world, trust in government is at an all-time low, citizen expectations are rising, and government finances are under stress. The result: the gap between citizen expectations and government's ability to meet them has never been greater. Our current industrial age model of government needs to change radically to close this gap.

But how? What are the main features of a government better suited for our times? How will the forces identified earlier significantly change government, and which of them have the greatest potential to make a positive difference and which represent the biggest threats?

These seven major trends have the potential to reshape government—in many cases from the outside—and transform the public sector.

Shift #1: Government as an enabler instead of a solution provider

In 2020, the most successful governments focus on developing societal solutions from outside government, rather than on trying to solve problems themselves. They build platforms, hold partners accountable for targeted outcomes, open up services to choice, and manage crowdsourced campaigns and competitions. One result: a big increase in public-private partnerships. This in turn encourages the growth of triple-bottom line businesses that pursue social and environmental goals along with financial ones.

Shift #2: Made-for-me service delivery

We are 20 years into a shift towards more personalized services, and government is not immune from the forces underlying this shift. Between now and 2020, scores of public service interactions in Western governments will be personalized and available from home and mobile devices. For example, a Fish and Game stamp could have a scannable barcode that ensures authenticity, so an angler can print it at home, eliminating an in-person visit.

Many government services continue to go mobile, moving out to neighborhoods (perhaps on "taco truck" style vehicles) and deliver in-person services to constituents. Why? Because large centralized offices don't make sense when different groups of people have different needs, or when many traditional functions can be handled remotely through digital services.

Shift #3: Distributed governance

Increasingly, "government" functions are being "co-created" with citizens, on their own or working with others. Technology makes it possible to distribute tasks to citizens. For example, Hawaii's tsunami siren app coordinates citizen volunteers who adopt a warning siren and take responsibility to ensure it has functioning batteries.
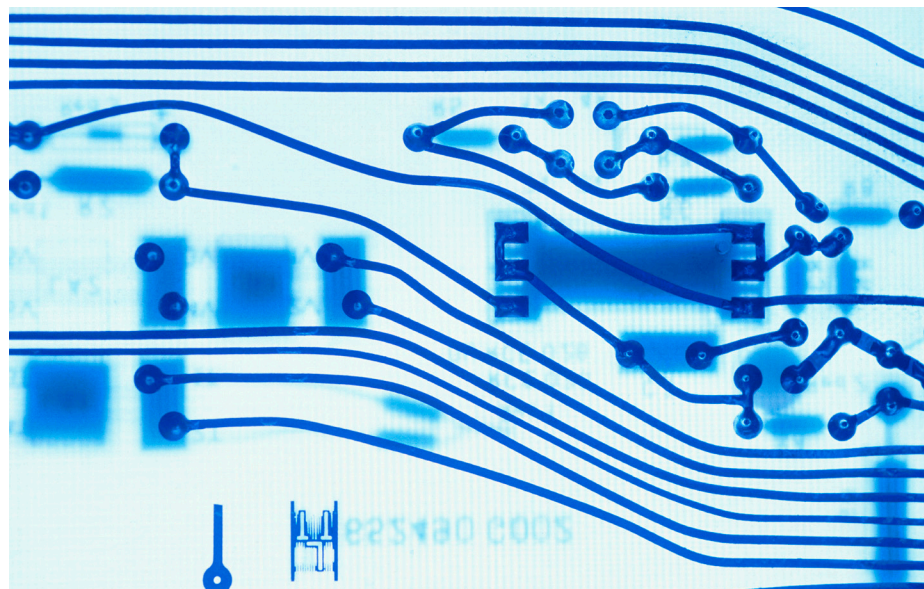
Carefully designed co-creation processes will allow policy designers to work side-by-side with citizens to build better prototypes and test them more realistically, increasing the final policy's effectiveness.

Crowdsourcing initiatives will allow individuals to share their experiences across many levels of the legislative process. Wikipedia-like sites could highlight problems—and solutions—about which citizens care most deeply. Open data provide citizens access to the information that once required a staff of legislative experts to collect and analyze

Shift #4: Data-smart government

Predictive modeling and other types of data analysis allow the public sector to focus more on prevention, instead of just reaction and remediation. For example, rather than simply reacting to custodial parents calling to report they are not receiving child support, a predictive model can alert enforcement officers ahead of time about the non-custodial parents most likely to go into arrears.

Psychological approaches, like the UK's Nudge Unit,

can help communities move in healthy directions. For example, electric or water bills that graphically show usage stats can significantly reduce household waste. (Some power companies now show households how their usage compares to their neighbors.) Of course, nudging citizens is a delicate task, and governments will have much to learn about the right—and wrong—ways to do this.

Analytics give policymakers the ability to test potential solutions in advance. These tests won't be perfect, but they represent a more fine-tuned approach to predict, say, whether a policy that worked for one segment of society will work for another.

Shift #5: Alternative forms of government funding

Technology opens up many unique alternatives to fund services and infrastructure, which is good news in our era of fiscal restraints. We already see increased use of payment-for-results models—such as social impact bonds and tax increment financing (TIF)—to finance costly development projects and services. In essence, these initiatives flip the old models and move some financial risks from governments to investors and contractors.

Dynamic pricing and pay-as-you-go systems will replace the blunt pricing models of the past. With greater frequency, governments will allow citizens to pay in real time for the services they use. To ensure the right balance between supply and demand for infrastructure services, governments will employ multiple forms of dynamic pricing for road use and parking. In simple terms, social costs and benefits, get better reflected in the price.

Shift #6: Just-in-time civil service

Radical changes in the public sector's talent model are possible. One option: governments apply the consulting staffing model to their workforces. Employees won't stick to departments, but instead will move from project to project. Advanced HR policies will track skills, accomplishments, and certifications in ways that keep employees engaged.

Governments will also expand their talent networks to include "partnership talent" (employees who are part of joint ventures), "borrowed talent" (employees of contractors), "freelance talent" (independent, individual contractors) and "open-source talent" (people who don't work for government at all, but are part of a value chain of services). This shift from a closed model to an open, more inclusive one will redefine what "public workforce" actually means.

Shift #7: A new basis for national prosperity

Critics have long criticized both GDP and GNP metrics for failing to measure social success. Bobby Kennedy famously said, "Gross National Product counts air pollution and cigarette advertising… yet the Gross National Product does not allow for the health of our children, the quality of their education or the joy of their play."

Society has evolving attitudes about what defines success, and new methods will measure social good. They will include more holistic measures of progress and well-being such as personal safety, ecosystem sustainability, health and wellness, shelter, sanitation, inclusion and personal freedom. Taken together, they will change how societies assess their progress; placing new demands of government and business.
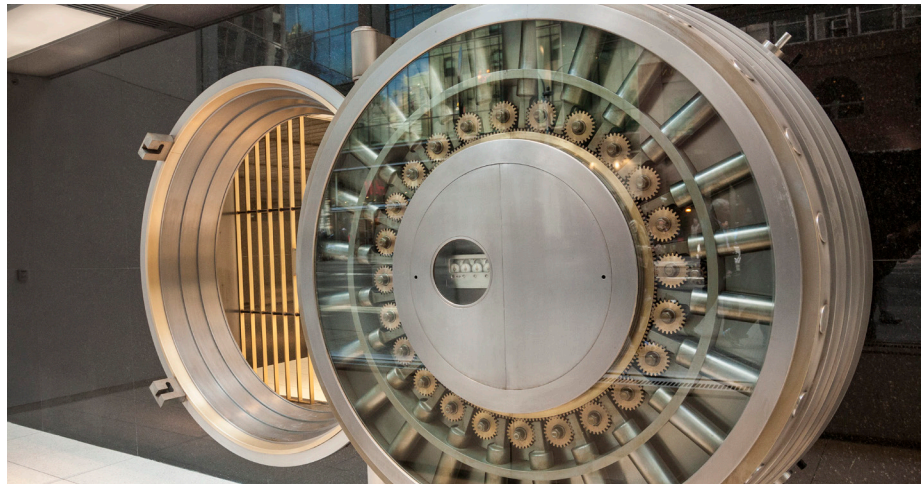
Sector Trends

Changes or shifts in the way government operates as a whole will have implications for the various sectors within government. For example, what could data-smart government mean for law and justice? Or how could alternative forms of funding improve transportation? The following sector trends reveal how high-level changes could trickle down to individual segments of the public sector.

Education: Step into the classroom in 2020 and see powerful forces at play. A global shortage of skilled talent propels career-focused learning. Virtual learning, digitization, and augmented reality have made our old definitions of a classroom obsolete. Evolving learning needs redefine what education means, who delivers it and how. Students become teachers, learning from one another through project-based learning and self-organized learning environments. Education funding shifts to pedagogical approaches proven to work via real-world trials. Unbundled, personalized, and dynamic education is the new normal.

Energy and Environment: Conversations on energy and the environment center on the three Cs—connect, collaborate, and coexist. Smarter devices result in smarter energy choices, while networks of sensors, drones, citizen regulators, and conscious consumers work together to monitor and protect the environment. Rapid urbanization fuels innovation and the quest for sustainable and resilient cities. Entire markets emerge around sustainable solutions such as reducing food waste. Government regulation is less blunt—and heavily influenced by sensor-produced data.

Health care: The dominant health care trend in 2020 is, quite simply, pervasiveness. Mobile health apps, telemedicine, remote monitoring, and ingestible sensors generate rich data streams, allowing doctors and patients themselves to track every heartbeat, sneeze, or symptom in real time. Bioinformatics and analytics allow for personalized risk assessments and tailor-made medicine. Breakthroughs in robotics, 3D printing, and stem-cell research make surgical procedures safer and improve outcomes. Health care systems shift their focus to wellness and prevention to compete against insurgent competitors.

Human Services: Human services in 2020 are customized, data-driven, and technology-infused, continually redefined by new possibilities. Governments tap community assets and peer-to-peer support

programs to augment service delivery. Behavioral psychology and economics play a larger role in designing interventions, while outcome-oriented social innovation financing helps scale the programs that work. Mobile technology, sensors, and wearable devices enable remote monitoring while virtual check-ins complement in-person interactions. A new breed of caseworker-intrapreneur brings fresh ideas and innovation to human services organizations. Outcome-based funding moves beyond fringe status thanks to advances in measurement, data analytics, and inflows of private and nonprofit funding.

Law and Justice: 2020 sees law enforcement using innovative new methods and technologies to protect public safety and rehabilitate offenders. Mobile computing and electronic monitoring enable virtual incarceration. Gamified web and mobile interfaces deliver jobs training, community connections, and rehabilitation services. Data analytics ensure that interventions are tailored to offenders' profiles. As crime becomes more sophisticated, so does policing: drones act as eyes in the sky, while officers on the ground use wearable computing, facial recognition software, and predictive video. The fight against cyber- and biocrime shifts from a purely national responsibility to an increasingly important focus on local law enforcement.

Transportation: In 2020, transportation is as much about bits and bytes as the physical infrastructure on which we walk, bike, drive, and ride. Sensor-powered dynamic pricing, mobile-enabled collaborative transport models such as ridesharing and social transport apps, all help tackle traffic congestion in major urban corridors.

Tremendous advances in connected and automated vehicle technology put the first fleets of autonomous or semi-autonomous vehicles on the roadways. Sustainable transport options such as electric vehicles and e-bikes become widespread. Air travel is reimagined through augmented reality-enabled self-service airports, while the skyways see greater drone use for civilian and commercial purposes.

Defense: Security and warfare look very different in 2020. Electronic intelligence and surveillance functions driven by big data have become key defense requirements. Wearable sensors, smart uniforms, and performance-enhancing supplements significantly boost the capabilities of the next-generation soldier. Robot and drone armies strike with precision but sometimes blur the lines drawn by conventional laws governing warfare. An upsurge in cyber-warfare makes it increasingly difficult to distinguish between the actions of terrorists, organized criminals, fringe movements, nation states, and teenage hackers. Procurement sees a departure from historic norms with the rise of 3D printed weapons and challenge-based R&D models.

Conclusion

In 2020, the most agile governments openly embrace the new possibilities of technology and civic engagement as they reposition to affect better outcomes. Outside drivers will eventually force change within governments, but many will take steps today to proactively reshape their futures in ways that produce measureable benefits for society. We expect increasing numbers of partnerships organized around innovative solutions that ignore old pathways and divisions between non-profit, corporate, and government. Expect to see simplified interactions with citizens, more dynamic workforces, more accurate assessments of each program's impact, and greater citizen participation in civic work and civic policy.

Don't expect government to hold still. The immediate future is bringing many inevitable changes; the opportunities to enable progress are too compelling.

Explore the future of government at http://government-2020.dupress.com

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