

## CHAPTER THIRTEEN

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# The Future of Work

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# THE FUTURE OF WORK

*By Darrell M. West*

In recent years, there have been numerous efforts to innovate in the public sector. Some government agencies have used Challenge.gov contests to encourage innovation through public competitions that generate new ideas for the public sector.<sup>1</sup> Others have suggested “crowdsourcing” as a means to test proposals. By subjecting possible initiatives to the wisdom of the crowd, they hoped to broaden the range of ideas and help decision makers think outside of traditional patterns.<sup>2</sup>

While these ideas have created some successes, they pale in comparison to the management and technical innovations likely to happen in the next two decades. Taking advantage of initiatives in both the public and private sectors, the U.S. federal government workforce is likely to evolve in several ways that follow best practices for improving performance.

In this chapter, I discuss new management and technology initiatives and how they might affect the future of the federal workforce. I break down the possibilities into the near-term future (2020-2025), the medium-term future (2025-2030), and the long-term future (2030-2040), and argue there are several developments with the potential to transform the public sector.

## **Near-Term Future (2020-2025)**

The near-term future includes several options to change the federal workforce: the increased use of artificial intelligence and data analytics, greater deployment of personal digital assistants, and new employee performance rating systems. These tools would enable greater labor productivity and enhanced accountability.

**Increased Use of Artificial Intelligence (AI) and Data Analytics.** Artificial intelligence algorithms are designed to improve decision making, often by using real-time data. They are unlike passive machines that are capable only of mechanical or predetermined responses. Using sensors, digital data, or remote inputs, AI systems can combine information from a variety of different sources, analyze the material instantly, and act on the insights derived from those data. With massive improvements in data storage systems, processing speeds, and analytic techniques, they are capable of tremendous sophistication in analysis and decision making.<sup>3</sup>

AI system development generally is undertaken in conjunction with machine learning and data analytics.<sup>4</sup> Machine learning analyzes data for underlying trends. If it spots something relevant for a practical problem, software designers can take that knowledge and use it to analyze specific issues. If data are sufficiently robust, algorithms can often discern useful patterns.

Data can come in the form of digital information, satellite imagery, visual information, text, or other structured and unstructured data.<sup>5</sup>

AI systems have the ability to learn and adapt as they make decisions. In the transportation area, for example, semi-autonomous vehicles have tools that let drivers and vehicles know about upcoming congestion, potholes, highway construction, or other possible traffic impediments. Vehicles can take advantage of the experience of other vehicles on the road, without human involvement, and the entire corpus of their achieved “experience” is immediately and fully transferable to other similarly configured vehicles.

Through advanced sensors and algorithms, AI systems can incorporate their experiences into their current operations and use dashboards and visual displays to present real-time information that helps users make smart decisions. These systems represent a way to take the latest information and incorporate it into policymaking.

There are many ways that AI and data analytics systems can improve government decision making. They can help supervisors track performance, manage resources, and deploy agency assets. These systems can assist in federal efforts to drive energy efficiencies, promote national defense, and improve healthcare.<sup>6</sup> In addition, AI has the potential to augment the work of civil servants by assisting the review of client eligibility determinations in agencies such as the Veterans Benefit Administration and the Social Security Administration. Anti-fraud software can scan financial transactions and service delivery across large organizations and identify unusual patterns or clear outliers in terms of normal procedures and decisions. Transactions that seem out of the ordinary can be flagged for more intensive personal analysis, and this can help managers do a better job of keeping employees directed towards appropriate ends and performing at a high level of activity.

**Increased Use of Personal Digital Assistants.** Digital assistants are becoming more common in the consumer market. Examples include Apple Siri, Amazon Alexa, Google Assistant, Microsoft Cortana, and Samsung Bixby to help people find information, answer basic questions, and perform common tasks.<sup>7</sup> In the commercial sector, individual digital assistants are geared to improving business processes, such as travel, personnel selection, and acquisition.

These digital assistants also can be used in the public sector to help federal employees complete various activities. For example, they can help workers keep track of leave time, file reimbursement requests, request time off, and undertake routine tasks that used to take employees hours. Through voice-activated commands, workers will be able to navigate mundane tasks quickly and efficiently. The electronic system will free workers from the mountain of paperwork currently required.

One of the stultifying aspects of modern bureaucracy is outdated administrative processes. These processes, often requiring multiple approvals, were initially put in place to safeguard integrity and make sure employees do what they are supposed to be doing. They are part of the “command and control” mentality common in large organizations.

However, form often interferes with function in large organizations and therefore has negative consequences. Rather than making organizations operate more effectively, paperwork requirements take considerable time, demand a lot of emotional energy, and slow agency operations down to a snail's pace. Having digital assistants that administer routine tasks represents a way to overcome these deficiencies and achieve better results in the process.

**Increased Use of New Employee Performance Rating Systems.** In the new digital world that is emerging, technology will make federal employees much more accountable. Policymakers could borrow a tool currently deployed in China to improve public sector performance. At the Beijing International Airport, airport authorities use digital devices that allow visitors to rate the individual performance of passport officers on a one-to-five scale. After each encounter, visitors can provide numeric feedback on their experience and thereby provide actionable information to agency supervisors. The reams of data gathered by these devices enable Chinese authorities to discipline poor performers and make sure foreign visitors see a friendly and competent face at the airport.

In one respect, this approach would build on the notion of online surveys currently undertaken for U.S. federal agencies by the ForeSee company. The firm regularly polls users about website functionality to gauge online experiences. This approach allows analysts to rank e-government satisfaction for various agencies. In 2016, for example, ForeSee Results collected data from over 220,000 responses and found a citizen satisfaction level of 75.5, up from 63.9 in 2015. Among the top-performing sites were those of the Social Security Administration and the Departments of Treasury, Health and Human Services, and Homeland Security.<sup>8</sup>

Adoption of a broad-based accountability tool would allow many parts of the federal government to become more decentralized and provide employees with greater authority to make decisions. Since the federal organizations are subject to digital ratings, they are accountable and responsive to customers. Also, supervisors can track performance without personally monitoring every interaction.

If deployed broadly throughout the bureaucracy, this technology would strengthen management operations and processes. Employees would know how they were doing throughout the year—not just at evaluation time. In addition, supervisors would have a more detailed and accurate means of determining who is doing their job. Such a mechanism would help them separate high from low performers, and reward those who are doing the best job.

## **Medium-Term Future (2025-2030)**

Between 2025 and 2030, there likely will be movements toward a flattening of agency organizations and greater use of biometric security systems. These shifts are designed to improve agency operations and protect public information systems.

**Use of Flattened, More Collaborative Organizations.** The sharing economy represents an example of an idea that has revolutionized the private-sector workforce. Through firms such as Uber, AirBnB, and WeWork, companies have flattened their organizations, introduced digital technology, improved collaboration, and moved to temporary workers or outside contractors to fulfill key parts of the business mission.<sup>9</sup>

Over the next 20 years, this collaborative concept likely will be deployed extensively within the federal workforce. The days when government employees were subject to a centrally directed Office of Personnel and Management and filled with permanent, full-time workers sitting in downtown office buildings may morph into flatter organizational structures with greater decentralization, more technology, and increased employee autonomy.

Flatter, more open, and more collaborative organizations reduce the number of mid-level managers, empower front-line workers, and give upper echelons the tools to hold service providers accountable for their actions. This approach makes it possible to operate a lean team that still delivers on key objectives. Temporary workers are used when specialized job skills are needed for specific tasks. That could include drivers, food workers, security personnel, data management experts, routine service deliverers, and information management teams, among others.

Political leaders have long preached the virtue of running government like a business, and the success of flatter and more collaborative private firms will encourage policymakers to bring such models to the federal government. These efforts will build on past approaches such as out-sourcing, contracting, and privatization, but go much further than any of those models.<sup>10</sup>

Of course, permanent civil service workers still will be needed for positions requiring special skills. Strategic planning, crisis management, and high-level policy-making will necessitate well-trained workers with the ability to synthesize and manage information from a variety of areas. They will be vital in setting the overall tone within an agency and making sure temporary or contract workers are performing their jobs.

But long-term employees may no longer form the bulk of the workforce. One of the hallmarks of the contemporary period is “megachange,” whereby local, national, or international circumstances can alter quickly and require very different responses from the federal government.<sup>11</sup> Reliance upon short-term workers will produce greater agility in responding to public needs, reduce the cost of government, promote efficiency in the public sector, and speed up government responses.

**Use of Biometric-Based Security.** Security is currently handled poorly in most federal agencies. A number of organizations rely upon outmoded password systems that are hard to remember and susceptible to external hacking. The result is that public IT systems get compromised on a regular basis and sensitive information flows into outside hands.

The most prominent example of this occurred in 2013 when hackers stole millions of individual records from the U.S. Office of Personnel and Management. This included sensitive background checks and detailed personnel information.<sup>12</sup> This incursion represented one of the most widespread cyberattacks in the history of the federal government.

A better way to handle security is through biometrics and facial recognition software. Employees no longer need alphanumeric passwords that have to be changed every few months. Their mobile devices scan their faces, fingerprints, and irises, and thereby provide safe access to digital files and collaboration tools. Under this kind of system, security is improved dramatically and external adversaries have a much tougher time stealing personnel records, financial data, or email correspondence.

Of course, it is vital to protect personal privacy. No employee would want his or her fingerprints or eye scans to be compromised or used by malevolent intruders. There would need to be safe and reliable protections designed to ensure people's privacy was not harmed.

### **Long-Term Future (2030-2040)**

For 2030 and beyond, there are “farther out” ideas for altering the government workforce. By this time, automation will be fully advancing and workforce disruptions quite substantial. The results could be a 30-hour work week, and scenarios such as dramatic changes in the social contract or a dystopian government to quell a restive population are possible.

Estimates vary considerably regarding the workforce impact from robots, AI, and automation. At the low end, researchers at the Organization for Economic Cooperation and Development (OECD) focused on “tasks” as opposed to “jobs” and found few job losses. Using task-related data from 32 OECD countries, they estimated that 14 percent of jobs are highly automatable.<sup>13</sup> At the high end, though, a Bruegel analysis found that “54% of EU jobs [are] at risk of computerization.”<sup>14</sup>

Regardless of whether the disruption is high, medium, or low, the fact that all the major studies report significant workforce disruptions should be taken seriously. Relatively small workforce impacts can have outsized political consequences.

One way to deal with a situation where there are more workers than jobs is to reduce the mandatory hours for full-time positions for everyone, and therefore free up additional jobs for other people. That would enable more people to be able to gain employment and help society cope with a scenario where fewer workers are needed.

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## Alternative Scenarios for the Future

While “Long-Term” futures are difficult to predict, it is possible to set forth two alternative scenarios:

### **Scenario One: A Rosy View—Reimagining the Social Contract**

In addition to the 30-hour work week, other workforce reform in a new social contract would include increased worker eligible for paid family leave, periodic sabbaticals, and time to perform hobbies or community service projects, while those without jobs receive support through an earned income tax credit that covers their minimal needs.

Providing better work benefits is the route taken by a number of technology firms who face a competitive worker recruitment environment and a substantial need for Millennial workers who prefer a balance between vocations and avocations. Surveys of young workers often find they want time to better their communities and pursue outside interests in the arts, music, culture, and theater. Redefining the nature of work and providing time to satisfy outside interests could be attractive during a time of serious workforce disruption.

### **Scenario Two: A Pessimistic View—A Dystopian Government**

It also is possible to envision a scenario where weakened governance institutions will prevent policymakers from shortening workweeks, reimagining the social contract, retraining workers, or helping with lifetime learning. As job losses accelerate due to automation and income inequality rises, democratic nations could become dystopian to deal with unhappy populations, high youth unemployment, and a loss of economic mobility. Rather than arriving at utopia, the United States could descend into dystopia due to its government’s inability to handle the transition to a digital economy.

Weakened governance institutions would obviously have profound consequences for federal workers. For example, their employment might not have the kinds of civil servant protections common today. They might also not be free to perform their duties in a fair, professional, and non-partisan manner, but instead would suffer from lack of clarity in agency missions and lack of direction from the top. This would represent a drastically different workplace than typical today.

### Endnotes

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