AI's role in a modern government

Work-in-progress is part of the digital journey

Start your AI journey in the right place

Leaders of a federal agency knew they needed to use artificial intelligence (AI) and process automation to achieve their missions on time and budget. First they tried to prioritize their needs and match each need with the right solution. With so many technology possibilities, from foundational AI capabilities to prepacked automation solutions, they were unable to choose. The projects stalled. This is a common example that frustrates many federal, state, and local government leaders.

Using AI to improve operations is no longer an option, as long as organizations use the technology correctly. This article is intended to help government CIOs, IT and operations executives, and anyone involved in digital transformation learn the latest on how AI can help augment modernization efforts—where to start and how to knock down barriers and build trust in AI. Federal, state, and local governments have different needs, so we separate messages to focus on each.

What AI means to government organizations

Imagine your organization's workers never having to scan and store documents or do other basic, repetitive tasks. This already happens in some government organizations. Consider the potential if AI and automation, along with advanced, predictive tools, could analyze unlimited data sources in a secure cloud environment to improve your team's ability to make decisions. These are the possibilities that emerging technologies offer.

When organizations rethink processes and the way people work before making their technology selection, emerging technologies such as AI, robotic process automation (RPA),

and low-code platforms can redefine business and operating models. More important, they can enhance the way your citizens live and your employee's work.

Federal government agency's AI maturity varies. Sixty-one percent of government agencies have fully or moderately functional AI in 2021, lagging other industries in the private sector.[1] The most forward-looking federal leaders are engaging others to create a culture of innovation across government. Military and law enforcement have used AI for intelligence, defense, communication, and other mission-oriented uses for years. The Department of Defense, as a recent example, will use AI and machine learning to cut down on tedious data point comparisons to help identify unidentified aerial phenomena.[2] Administrative organizations are adopting AI and automation to improve efficiency, security, and user experience. For example, the Centers for Medicare & Medicaid Services uses a KPMG-developed automated solution that replaced a manual process to identify and recover millions of annual, improper Medicare Advantage payments.

Why modern government is important

Government agencies in the U.S. must modernize in order to keep up with changing user needs, regulations, and health and public safety requirements. Some realize a modern government means rethinking the way they operate—revamping business and operating models so agencies are able to better deliver on their missions. This article is one of a series that features how modernizing affects the government workforce and the user experience, improves security and public trust, and accelerates the digital journey. KPMG team members offer insights intended to help guide governments in their modernization efforts to encompass all processes, technologies, policies, and the workforce so each works together to create connected, powered, and trusted organizations.

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[1] "Thriving in an AI World 2021: Government." KPMG, June 2021.

[2] Brittany A. Roston, "Government UFO task force will use AI to study bizarre 'alien' aircraft," SlashGear, June 28, 2021.

AI use is still in the infancy stage in most state and local government organizations. Some states use AI tools to monitor infrastructure wear patterns—from traffic lights to road hazards to bridges. Early government agency adopters now use chatbots and process automation in financial organizations and to allow citizens to apply for social services, licenses, and other services. While the original value proposition for bots was to replace repetitive tasks, some agencies see additional value. For example, in Washington, D.C., bots help unemployment insurance investigators engage better with claimants and assist them in completing their benefits applications.

Chatbots and RPA were lifesavers during the pandemic when in-office contact halted for months. Front- and back-office automation enabled employees to work remotely and citizens to access services when they needed them without in-person contact. Beyond the earliest bots' simple copy-here-paste-there tasks, RPA is an essential tool in the toolkit for any large-scale modernization effort. Governments can quickly and reliably deploy bots and benefit from their flexibility and expanding capabilities.

The next step is to **add the cognitive power of AI and machine learning**. AI can speed up and improve data analysis to help people make faster, more thorough decisions. AI can expand workforce capacity and improve quality that will help agencies thrive in the future. AI also creates better employee and citizen experiences by addressing scale issues. It also helps with latency and enables organizations to more accurately project and predict future outcomes. Government organizations use AI to identify possible fraud and look for other programs for which a citizen could qualify. Some departments use AI to spot and monitor wildfires and hurricanes to help contain them and aid in rescue efforts.

Artificial intelligence (AI) is a collection of advanced technologies that allows machines to sense, discover, comprehend, reason, act, and learn. AI can take multiple types of data including unstructured, images and voice. It uses a large landscape of algorithms and tools to perform, for example, machine learning and natural language processing.

Machine learning is a subcategory of AI, which uses algorithms to automatically learn insights and recognize patterns from existing data, applying that learning to new data, to help make increasingly better decisions.

Natural language processing is embedded in many AI and RPA tools and allows the technology to understand, and use written and spoken human language.

Robotic process automation (RPA) is the application of technology that enables organizations to configure computer software or a "bot" to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses, and communicating with other digital systems.

Low-code references software development environments that are visual with little code. Developers drag, drop, and connect application components to create apps.
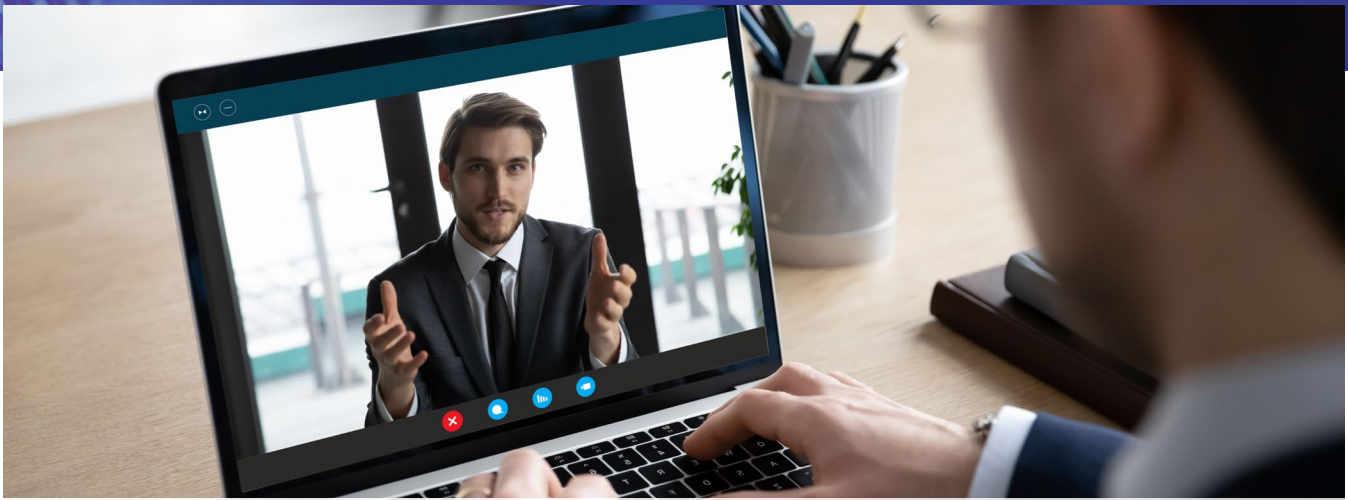
Push away roadblocks to AI

Beginning and scaling AI-enabled solutions is a challenge for many government organizations. Some need to work fast to catch up. Others need to work fast to begin. Some government organizations have to change cultures before they can secure support to progress. Finding qualified workers to develop and use these technologies can be difficult. While each organization's digital journey and challenges are different, many encounter similar roadblocks. Here are some methods to clear the way and accelerate your journey.

Government organizations' biggest challenges include **lack of budget and time to focus on modernization efforts**, especially in state and local governments. The work seems massive with legacy systems and processes with reams of documents and other information not digitized. With the right methods and tools, modernizing is doable. Modernization is also critical to stop organizations from imploding under the pressure to deliver in a digital world. With AI and automation, what used to take weeks or months and dozens to hundreds of people can take minutes or seconds. The potential time and money saved over the long term is a huge motivator to make time to modernize. Massively improved employee and customer experience is the biggest advantage. Would you rather your team input data from piles of paper or solve problems that have worried citizens for weeks?

Automation is not a hammer looking for a nail. Most organization leaders have heard vendor claims that any process can be automated. This may be true technically, but like the opening scenario, the automation effort will likely stall. Rather than forcing technology into an organization, we prefer to take a business-first approach and then engage the appropriate technologies to help strategically solve any mission or objective. The first step is to take that **business-first approach to identify what problems need to be solved**. Understand existing processes, systems, and user preferences to be able to **identify gaps and what is usable**.

This business-first method is especially critical for high-demand citizen-facing services. Most government organizations have what we call technical debt—where legacy systems don't talk to each other. Data and data models do not sync. Processes do not flow smoothly and are not documented, which **inhibits employee and citizen experiences**. A collaborative team with representatives from IT and operations is critical to starting a process that has such a dramatic effect on people, processes, and technology. Working together will allow the group to reimage the way the organization operates.

Offset lack of budget with solid ROI. To do this, think about the mission first and apply the technology to achieve the objective. In a recent survey, 79 percent of government executives think AI could improve efficiency.[3] Speed to value can be on your side. The good news is that taking steps along a digital journey can show value faster than an enterprise resource planning project that can take five or more years. Complete small-scale pilots to prove the technologies' capabilities. Careful planning can keep pilot budgets within purchasing limits to speed up approvals.

With the right approach and some successes, organizations can get quick wins in meaningful areas. Organization leaders will see the momentum—and the value—when you can show the return. Here are some tips on measuring ROI:
— Measure time and efficiency gains during AI and automation pilot programs
— Add and measure other important metrics: reduce backlogs, service impact, morale effect, employee retention, and hiring
— Report intrinsic, anecdotal, and calculated benefits in ways decision makers relate to achieving the mission long term.

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[3] "Thriving in an AI World 2021: Government." KPMG, June 2021.

Explore low-code as a part of your digital journey.
We view low-code applications as a key automation tool alone, but also as the enabling foundation of a business-driven approach called hyperautomation that some believe is necessary for successful digital transformation. Use of a broad set of tools, platforms, and technologies enables hyperautomation. The low-code platform serves as the foundation from which to manage the integration of RPA, machine learning, AI, virtual assistants, process automation tools, and others.

Many government organizations lack the skills to successfully complete their digital journey. In our survey of government executives, only 39 percent said their employees have the necessary skills to embrace emerging technologies. Also, outdated IT systems are the number one barrier to attracting talent according to 72 percent of recent survey respondents.[4] State capitals such as Austin, Texas or Denver, Colorado, for example, have a large concentration of qualified people, while others such as Topeka, Kansas or Lansing, Michigan may not.

Government organizations need employees with hands-on experience and knowledge of cloud, AI, RPA, digital design, data visualization, and more to build a positive experience for the public. They also need holistic thinkers who can use data, interpret real-time analytics, and navigate the fast-changing ways business and technology interact to thrive in digital environments. Finally, they need people with strong leadership qualities to lead, motivate, and develop these employees. Read more in the article "Government workforce for the accelerating digital era."

Use the outcomes from completing these steps to help change organizational culture. AI and automation have proven time and again to improve efficiency, productivity, and most of all, employee and customer experience.[5] When organizations are able to show ROI, more leaders will support AI efforts.

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[4] "Modern government: Connected. Powered. Trusted." KPMG, February 2021.

[5] "Automation evolution: from single task to strategic, unified tool set," KPMG and HFS, December 2020.

Technology means nothing without good data to analyze

One of the most valuable government assets is its data. Governments have massive amounts of data stored across a variety of systems that do not connect. Data is the fuel that runs AI, so governments need to consider improving the quality and access to data a priority in order to reap the valuable benefits AI and automation bring.

Many agencies have focused on digitizing paper records, so data is sharable. Federal agencies are working to comply with the Managing Government Records Directive (M-12-18).[6] With digital data, government organizations can use tools to enable **advanced analytics** such as machine learning, natural language processing, and computer vision to identify, extract, interpret, and visualize relevant data patterns from multiple sources. AI algorithms can realize the full value of data to provide advanced insight. For example, RPA routes claims to the right claim's analyst by either the pre-defined business rules, or mathematically optimized assignments from advanced analytics models that reroute resources to other citizen engagement channels during peak times. Algorithms can also help identify waste, fraud and abuse, and spot trends to guide projection decisions.

For state and local governments, **modernizing data access** is the best place to begin. Departments at the state and local levels are so focused on delivering citizen services, they often struggle to find the resources to prioritize innovation. Data is equally important for federal agencies, which often have larger budgets and more data, and many have multiple RPA and AI projects in use or underway. The journey is long for some with small budgets and system scopes, and many systems still use COBOL. With legacy systems, the challenge is getting data where it needs to be.

Adopt AI governance that instills trust

Governance plays a critical role in how much people trust AI and automation. As with any technology capability, government organizations need rigorous **governance** and **controls** including access controls, encryption, monitoring, backup, and recovery. Governance policies, standards, and processes will help minimize risks of cyberattacks or private and confidential data leaks.

Some states are working toward **legislation to address AI use**, especially in the area of privacy and security standards, which functions are appropriate for AI and which are not, and algorithmic bias. For example, legislation addresses when it is appropriate to use facial recognition. Some cities and states have disallowed it in law enforcement, but facial recognition with heat detection can determine if people have fever.

Some organizations develop AI policy and standards that include guidance to promote ethical AI efforts. Others create a cross-department group to govern AI projects. The goal is to **secure and monitor training data** and build in **transparency to remove bias** in data, algorithms, and decision-making. This transparency helps ensure organizations can explain the decisions they make and how they make them. Humans need to be a part of all automation efforts to monitor for bias and to make sure automation continues to meet ethical standards.

As people use and understand automation and AI, their doubts subside, especially as they see automation boost employee morale along with improving employee and citizen experiences. Employees appreciate working with new technologies that increase their productivity, engagement, and work satisfaction.

Delivering the promise of AI is not possible without including humans in the loop. AI has no perspective, point of view, or purpose, and requires humans to train, test, and tune. Organizations must train the workforce to cultivate AI until it becomes a trusted core capability.

The goal is to **create more capacity** so organizations and workers can choose the everyday work and side projects that are most meaningful. Organizations are more productive, and people have the capacity to make better decisions and be more innovative and do not get bogged down in the process.

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[6] "Digital transformation: A modern government point of view," KPMG, 2020.

About KPMG

KPMG has worked with federal, state, and local governments for more than a century, so we know how agencies work. Our team understands the unique issues, pressures, and challenges you encounter in the journey to modernize. We draw on our government operations knowledge to offer methodologies tailored to help you overcome these challenges and work with you from beginning to end to deliver the results that matter.

The KPMG team starts with the business issue before we determine the solution because we understand the ultimate mission. When the way people work changes, our team brings the leading training practices to make sure your employees have the right knowledge and skills. We also help your people get value out of technology while also assisting with cloud, advanced analytics, intelligent automation, and cybersecurity. Our passion is to create value, inspire trust, and help government clients deliver better experiences to workers, citizens, and communities.

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