Kick-Started by the Pandemic, AI and ML Adoption Isn't Slowing Down

State and local governments are dramatically expanding their deployment of artificial intelligence (AI) and machine learning (ML), moving the use of these technologies from theoretical to practical.

Chatbots are one example. These tools gained a foothold in public sector contact centers during the COVID-19 pandemic as agencies and departments struggled to cope with unprecedented demand for unemployment insurance benefits and other social safety net services. Chatbots and intelligent agent technologies expanded contact center capacity and took pressure off human contact center agents by providing automated responses to routine questions.

In Colorado, for instance, a virtual agent system deployed by the state's Department of Labor and Employment in summer 2020 was expected to handle more than half of the traffic coming into the department's contact center. Like many state unemployment insurance programs, Colorado's was inundated by claims from residents who lost their jobs during the pandemic, resulting in long wait times and busy signals for those seeking help. At the height of the crisis, an average of 8,000 calls a day were going unanswered.

"We should not have that long of wait times, and the department knows that," said Colorado State Sen. Chris Hansen, who worked on a series of reforms to the state's unemployment system. "And the department has brought significant new resources to bear."

A National Trend

Similar activity is occurring across the nation.

About 34 percent of counties plan to implement new chatbot technology in the next 12 to 18 months, according to the Center for Digital Government's (CDG) annual Digital Counties Survey. Almost 40 percent of counties responding to the 2021 survey already had chatbot solutions in place and many of them intend to upgrade those systems within the next year and half.

The numbers are even higher for state agencies. More than 80 percent of states have chatbot technologies in place and about 40 percent plan to upgrade those systems in the near future, according to CDG's most recent Digital States Survey, conducted in late 2020. Among the states that haven't implemented chatbots yet, all intend to adopt the technology within 18 months.

"This whole concept of contactless customer service has become really important. That's a key driver," says Bob Woolley, former chief technical architect for the state of Utah who is now a CDG senior fellow.

Woolley saw the trend firsthand as a judge for the Digital States Survey.

"Of the states I reviewed, more than half had chatbot projects underway," he says. "And some of them were enterprise in scope — they were very big."

Security is another growing AI use case. More governments are using AI in the form of machine learning to scour system activity logs to detect suspicious behavior that may signal a cyberattack. Intelligent software can automate this task and perform it at a scale that's difficult for humans to match.

"States have been great at creating these massive logs of stuff, but they often don't have any idea what's in them," says Woolley. "They didn't have enough hard drive resources, didn't have the right tools and didn't have enough people to review them."

In most cases, governments aren't deploying AI tools themselves, adds Woolley. Instead, they're acquiring AI-powered cybersecurity capabilities through security service providers and chatbots through software-as-a-service arrangements.

"They're working with partners who have this expertise," says Woolley. "That's what all of our top-tier states are doing. They realize they don't have these skillsets in house."

Broader Deployment Challenges

Although states and localities are moving rapidly to take advantage of AI and ML, the first wave of deployments often focused on individual programs or tasks: chatbots, for example, that answer questions about unemployment insurance claims or help utility customers restore service.

Broader and deeper use of AI will require governments to rethink traditional data management policies and upskill IT teams.

"One of the key policy challenges is data should be shared by default," says Woolley. "We've been talking about that for years — but when you do it, good things really can happen."

Better data sharing is particularly important as governments attempt to use AI to understand and address complex issues like recidivism, which are shaped by a broad range of factors and may involve data from corrections, law enforcement, education, social services programs and more.

In addition, government IT teams will need to hone their skills around consulting with business agencies to understand their

requirements and apply effective AI solutions to those problems.

"IT organizations really need to be asking line-of-business leaders what kinds of information and insights they need to be effective. A lot of them aren't asking that question, so that's a big gap," says Woolley. "IT teams get locked into doing the same old, same old — but when you get into analytics, AI and ML, you really need to listen to what your customers need."

Poised for Growth

These and other barriers must be addressed as governments expand their use of AI and ML — and they clearly intend to use these powerful tools more frequently and in new ways.

More than 50 percent of state, city and county governments say they intend to upgrade their data analytics capabilities over the next 18 months, according to CDG surveys. In other words, AI activity kick-started by the pandemic shows no sign of slowing down.

"I expect the growth to increase dramatically," says Woolley. "Sometimes over the years, we've seen the adoption of technologies move slowly and then suddenly spike. This is one of those times."

Accelerating AI Adoption

Chatbots			
	Cities	**Counties**	**States**
Not using; plan to implement in 12-18 mo.	**37%**	**34%**	**17%**
In use	**15%**	**15%**	**44%**
In use; plan to upgrade in 12-18 mo.	**13%**	**25%**	**39%**
AI/ML for Cybersecurity			
Not using; plan to implement in 12-18 mo.	**23%**	**20%**	**28%**
In use	**23%**	**32%**	**28%**
In use; plan to upgrade in 12-18 mo.	**26%**	**29%**	**25%**
Business Intelligence/Data Analytics			
Not using; plan to implement in 12-18 mo.	**10%**	**7%**	**2%**
In use	**34%**	**33%**	**37%**
In use; plan to upgrade in 12-18 mo.	**55%**	**53%**	**59%**

Source: CDG Digital Cities, Counties and States Surveys