How AI Could Change How You Work (and How to Overcome the Fear Factor)

Data is often called the rocket fuel of agencies because of how its insights can reshape programs and policies and drive innovation in operations and services. If that's the case, then artificial intelligence (AI) can be rocket fuel for the rocket fuel, enabling agencies to get deeper insights at unprecedented speeds.

GovLoop recently hosted a roundtable, sponsored by Microsoft, that brought together thought leaders from government and industry to explore some of the emerging use cases for AI and data, as well as some factors that agencies would need to address to take full advantage of AI. Here are takeaways from their discussion.

Roundtable Participants

Damian Kostiuk
Deputy Chief Data Officer, U.S. Citizen and Immigration Services (USCIS), Department of Homeland Security

Michael Wetklow
Deputy Chief Financial Officer, National Science Foundation (NSF)

Wole Moses
Senior Director, U.S. Federal Growth Strategy, Microsoft

Expanding the Art of the Possible

Many of the emerging use cases for AI are focused on tackling challenges that have stretched or exceeded the capabilities of traditional data tools. What was once tantalizingly out of reach suddenly seems possible. Examples include:

Knowledge management. For decades, government agencies have been working on knowledge management systems that capture the institutional knowledge and domain expertise of their employees. The problem is that the volume of information involved makes it difficult to suss out useful insights.

That's where AI shines, said Damian Kostiuk with USCIS, with its ability to scan massive databases, find patterns and relationships, synthesize the information and summarize its findings. "Solving knowledge management alone will blow people's brains, if they can actually glean something out of the terabytes and petabytes of data that we've got," Kostiuk said.

Research and development. Those same capabilities position AI to have a big impact in research and development, said Wole Moses with Microsoft. For example, the Pacific Northwest National Laboratory (PNNL), a lab operated by the U.S. Department of Energy, focuses on researching energy security and sustainability to solve the world's enduring energy crisis.

In collaboration with PNNL, Microsoft integrated AI models into HPC workflows—allowing them to identify a new battery material in a matter of weeks, not years. With Microsoft's Azure Quantum Elements, the team screened over 32 million candidates in just 80 hours.

AI "enables us to get insights that we really couldn't get before, because of the massive volumen of data that we're dealing with and its complexity," Moses said.

Budget analysis. It's a common problem in government: Funding allocated for a particular program somehow ends up going nowhere, but no one realizes it. It just gets lost in all the other financial activity.

It's a costly mistake, said Michael Wetklow with NSF. "If we don't monitor that funding that's available, it gets stale and then at some point...it goes back to Treasury," he said.

Wetklow sees the potential for creating an algorithm that can analyze an agency's budget activity and identify obligations at risk of going stale. "In the past, that would have been a manual effort, and that's just impossible to do manually because there's hundreds if not thousands of obligations" to be tracked, he said.

Grants monitoring. NSF, like a lot of agencies, issues grants to universities and other organizations that are tackling challenges in the public interest. And every grant recipient is required to submit regular reports on their work progress and their compliance with program requirements.

NSF, which has a grants portfolio of 50,000, has created a repository for all those reports. Now, with AI, the agency sees the potential to analyze that data to gain deeper insights into the various research areas, as well as to get a better understanding of where projects are running into problems, Wetklow said.

When you know where your risks are, "you know where to focus your limited oversight capacity," he said.

Data prep. A lot of grunt work goes into getting data ready for analysis, especially when you are pulling data that comes from different sources and is stored in different formats. It's not all that complex, but it's laborious, especially in large volumes. That's one area where AI can really help, said Moses.

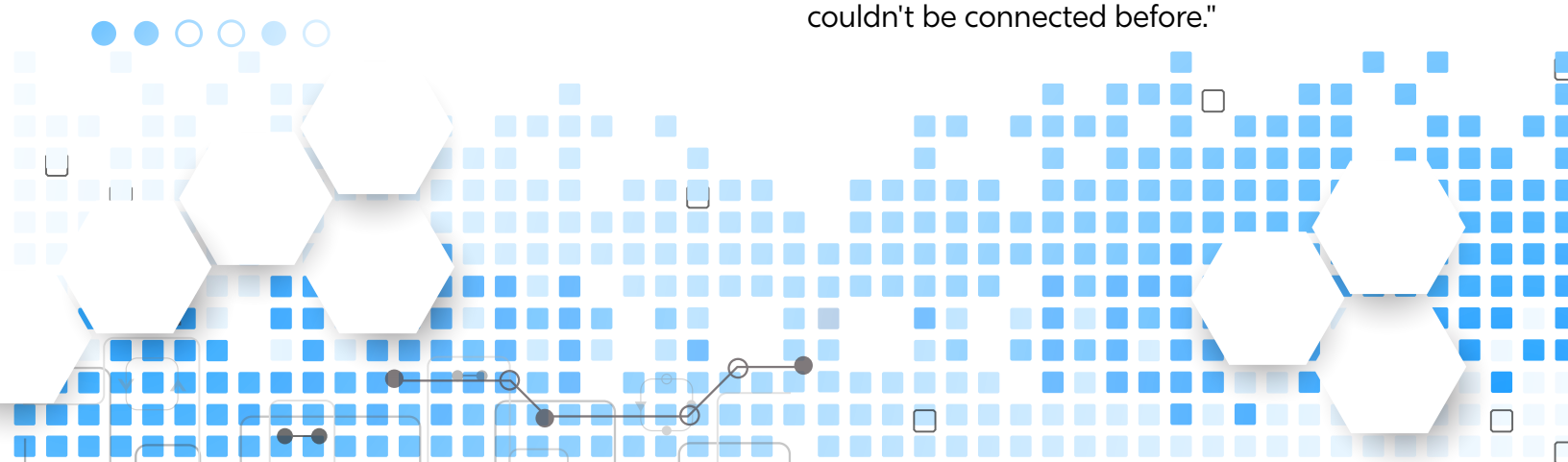
In the same vein, agencies often must anonymize data before analyzing it, to avoid exposing personally identifiable information (PII). That's one of the big obstacles agencies face when looking to share data, he said. "How do we take PII when we're talking about data at a massive scale?"

The power of AI, Moses said, is "the ability to go through and understand massive amounts of data, beyond what humans can access and understand."

Data dictionaries. "And here's a boring example," Kostiuk said. Boring, but important, especially when it comes to research: Different researchers might use different terms to discuss the same concept. Or they might use the same term in different ways. Either way, the lack of a standard data dictionary makes it difficult to develop a common understanding.

That's a problem ready-made for generative AI, which can understand words based on context. "I've seen a couple of cases where GenAI could rip through [a research repository] and come up with 10,000 terms and their denotations in just minutes," Kostiuk said.

This is not just a data problem. It's a human problem, he said. It's about "linguistic standardization — helping connect ideas that couldn't be connected before."



Overcoming the Fear Factor

As agencies develop their own AI use cases, they need to think about how those applications would be received by the employees they are intended to help, roundtable participants said. Whatever the potential benefits, making big changes to daily work routines can leave people feeling spooked.

"I can remember a time when people were spooked about email and things like that," he said. "And I can remember leaders saying, 'Not on my watch.'"

Change management needs to be part of every agency's AI strategy — not just training people how to use the technology but helping them get over the fear factor and feel comfortable with it, Wetklow said.

But Kostiuk expects the fear will dissipate quickly once people realize what AI can do for them. "Whenever we've gone out with an automation solution that relieves a person from something really banal and boring, we've just seen nothing but positive responses," he said. "I've literally had people tell me, 'Thank you for taking this away from my job.'"

AI Gets Personal

In that vein, Moses sees growing interest in the concept of an AI digital assistant. The idea is to provide employees with a generative AI solution, such as ChatGPT, tailored to specific domains of expertise, he said.

"So, if I want to learn to become a Michelin Star chef, I could have an AI assistant right beside me that had expertise in all the things that a Michelin Star chef would be trained on," he said. "I could ask it questions, and it would guide me and coach me."

Microsoft has developed an AI assistant called Copilot that applies generative AI capabilities to an organization's specific context and data. Microsoft 365 Copilot, introduced last year, works with data stored across the Microsoft 365 product suite. In summer, Microsoft will roll out a version of Microsoft 365 Copilot that complies with government requirements around security and privacy.

The company also offers Copilot Studio, a low-code tool that enables organizations to customize Copilot and Copilot 365 for specific uses.

The idea of a digital assistant should further highlight the value of AI and allay the fear factor, said Moses. "We'll all start to get more comfortable with this concept of having our own AI personal assistants that help us across different domains and in the different types of things we do," he said.