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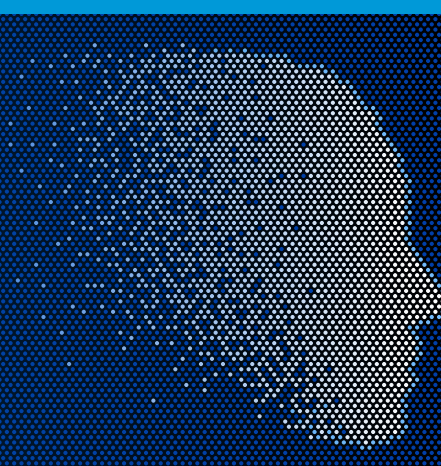
Top 5 Findings: Intelligent Automation

Key Takeaways From KPMG's Intelligent Automation Forum

On June 6, 2017, the Government Intelligent Automation Forum¹ took place at the Newseum in Washington, D.C., uniting some of the top technology executives in government under one roof.

Representatives from the Department of Commerce, General Services Administration, Department of Health & Human Services, and office of Montgomery County, Maryland were on hand to speak about the role that automation is playing in their agencies and the game-changing impact it will have in the near future.

Government Business Council, the research division of Government Executive Media, attended the event and compiled the following key takeaways.



1

Challenging The Myths

It's the stereotype that won't die: the rise of soulless, artificially intelligent machines bent on stealing jobs away from honest, hard-working Americans. However much the idea makes for good science fiction, it's a far cry from the real, applicable nature of automation.

According to Kirke Everson, Government Intelligent Automation Lead at KPMG, part of the reason the stereotype subsists is because automation still lacks a basic terminology. For Everson and his team, the task ahead is clear: "How can we categorize [automation] so we can talk about it intelligently?"

For starters, automation can be broken down into the following three classes:

- **Class 1: Robotic process automation (RPA)**
The automation of transactional, routine, rules-driven tasks. Think of automating data entry for an enterprise resource planning system (ERP), and you get a sense of what RPA can accomplish. It's ideal for automating basic tasks humans would prefer not to do anyway.
- **Class 2: Enhanced process automation**
Class 2 adds language processing and pattern recognition capabilities to the mix, making it possible for a bot to notice repetitive tasks and ask users if they would prefer to automate

that task. A chatbot that communicates when it's time to reset your password is one example.

- **Class 3: Cognitive automation**
The most advanced class of automation, Class 3's are capable of 'learning' patterns by processing vast amounts of structured and unstructured data. These tools are capable of operating extremely quickly, detecting data patterns that fly under the radar of human observation, and addressing challenges such as identifying fraud, waste, and abuse that require deeper analytics of large datasets.

Despite their differences, all of these classes operate with the same fundamental purpose in mind: to harness data in a way that serves citizens. Whether that's improving health outcomes, adding efficiency to the workplace, or aiding in knowledge transfer and training of new workers, automation has enormous potential to improve lives by making sense of the world's data.

Keeping in mind that 90% of the world's data was created in the last 10 years and that roughly 80% of this data is unstructured, it's no wonder that government sees an opportunity to strike while the iron is hot. "We are ingesting petabytes of data every day, and we want to extrapolate from that to save lives," says Todd Simpson, Chief Information Officer at the Food and Drug Administration (FDA). Automation can be the lifesaver.



2

Automation Is Here To Help, Not Hinder

“It’s not about labor arbitrage, it’s about labor augmentation,” says Everson. The other panelists agree: automation is about removing the mundane, routine tasks that employees prefer not to do, and redirecting their efforts to more satisfying, cognitive-heavy tasks.

A line repeatedly voiced by multiple speakers at the forum was that automation demands serious consideration of the frontline users. If you’re the executive tasked with introducing automated capabilities, you might ask your own employees: where do we have a lot of people doing the same job? What are the pain points that get voiced on a regular basis? By gathering feedback to those questions, leaders will be far more aware how they can use automation to help, not hinder, their workforce’s needs.

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Todd Simpson, Chief Information Officer, FDA

First and foremost, automation has to “empower people at the bottom of the totem pole to help them be more efficient,” says Paul Bartley, Director of Global Shared Services at Becton Dickinson. As a former Deputy Assistant Secretary in the Department of Health and Human Services, Bartley says leaders must approach automation from the perspective of the user, identifying inefficient business processes and pain points that employees would gladly give up for more meaningful work.

“We’re using bots as pothole fillers,” says Bartley, when discussing Becton Dickinson’s automation initiatives. “When you build a road, you get the big machines and concrete out and close the highway, [but] pothole fillers are there for that persistent pothole. You have to get past it, maybe there will be work down the line to fully address it, but we use automation to fill those temporary pain points.”

“We’re really not looking to drive humans out. We see this technology as a way to motivate our employees. Instead of doing mind-numbing tasks, now the machines can do that and you’re free to do analysis instead.”

3

Automation Will Expand Services To The Hard-to-Reach

Automation will help provide services to demographic groups who have previously been very difficult to reach. Daniel Castro, Vice President and Director at the Center for Data Innovation, says that by deploying Class 2 natural language processing chatbots, state and local agencies are connecting with foreign language speakers, immigrants, and disabled individuals in a way that’s never been possible before. This is particularly impactful in urban environments, which tend to have larger populations and greater diversity among citizens.

What’s more exciting is the recent timing of this outreach, which Castro credits to a confluence of advancements in cloud computing, data analytics, and machine learning. He’s joined in that assessment by Justin Herman, Project Lead of the Emerging Citizen Technology Program in GSA’s Technology Transformation Service. Herman recounts a story where his early attempts at automation were thwarted by limitations in digital services and government IT.

Responding to an emergency situation at the local level in one state, Herman’s team was asked to create a digital operations center capable of intercepting citizen requests for help. While the technology allowed his team to “see in real time the 30,000 requests coming in, what was lacking was the ability to make this actionable and digestible.” Now that technology exists, says Herman. “The mission needs and the problems have existed forever, but only recently has government IT caught up to these problems.”

For Dan Hoffman, Chief Innovation Officer for Montgomery County, Maryland, the elderly stand to benefit as well.² “We’re looking at tools that can automate a check-in with an isolated senior at home. Currently, we may send a nurse two to three times a week to check on them while they’re waiting for placement in an assisted living facility. Could we do that once a week by putting a device in the senior’s home, which could not only improve their quality of life but also automate a process that was highly manual and high-touch?”

Hoffman thinks so, but he wants to make sure every step towards automation demonstrates value to those it serves. “[When we talk about automation], I think a lot of the stuff we’re talking about is transactional. However, I think at this point the panacea is starting to actually reach out and help people live happier lives with some of these more labor-intensive high-touch services.”



4

New Answers, Unprecedented Insights

“We’re not just ingesting more data, we’re actually getting different answers!” says Megan Vorland, Director of Programs at Dcode42, which works to accelerate how commercial technology is introduced to government customers. She says automation is directing attention to patterns not previously considered, raising solutions to problems that, until now, were ignored.

According to one expert, “we’re trying to connect technologies to better understand and serve customer needs, and make sure we don’t duplicate existing operations.” Other panelists agree that automation presents a perfect vehicle for harnessing data effectively. For example, it can provide personalized treatment to individuals needing care. It can also crowdsource knowledge and sift through massive sets of data, combining disparate datasets into aggregated sets and ‘learning’ from patterns detected in both structured and unstructured data.

Dr. Arvind Sathi, Chief Architect of IBM’s Watson, has a unique vantage point over the potential of automation to unlock new insights. Automation, he says, will literally help “connect the dots in situations where there simply isn’t enough time.” For example, Watson’s knowledge base and ability to process incredible amounts of health data make it especially useful for medical specialists to diagnose diseases that in some cases evade normal check-ups.

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Justin Herman,
Project Lead, Emerging Citizen Technology Program, GSA

Bartley agrees one value of automation is that it gives professionals a bird’s eye view of any given situation. To illustrate this, he provides an example of a fire taking place in New York City. “In the cab of the fire truck now is a computer that feeds data from the rest of the city. It lets the firemen know if there’s a daycare near the location of the fire. It also tells them about licenses for propane tanks and the location of propane tanks in the area. So, imagine: when the firemen get to the fire, they already have this great intel about the best way to rescue these kids without evacuating them to rooms known to hold propane tanks.”

5

Prioritize Governance & Business Case Processes

The technology behind automation provides agencies limitless opportunities to address lingering pain points and inefficiencies. It might be tempting to rush headlong into the sandbox, but the experts say there needs to be a game plan.

“It’s largely about governance,” says Glenn Davidson, Executive Director of Enterprise Services at the U.S. Department of Commerce. “The way that we crafted this is that we have a departmental management council made up of mostly senior career individuals in each department. They’re my enterprise services governance board effectively. As we learn about people playing with new tools and new devices, it’s nice to be aware of it, but at the end of the day we’re trying to curb that activity so we can do it in a shared services model.”

Davidson says it’s important to define the way each function operates, determine which activities belong to which processes, and to establish an enterprise services model that governs automation across different bureaus and offices. “Every investment must have a business case in place beforehand where you can point to and say ‘this is good planning’.”

Hoffman backs him up: “Every step should have some value, every action should help someone out. Executives must exercise patience, be honest and visible about the impact this has on employees, and make sure they deploy automation appropriately at scale.”

FDA’s Todd Simpson agrees with his colleagues: “I can’t tell you how many times someone in the department says ‘you have an IT problem’, to which I say ‘no, we have a business problem!’”



The Future Within Reach

Does that mean agencies need to map out every process before giving automation a spin? Understanding the business side is important, says Vorland, but she also notes agencies shouldn't have to wait to get their feet wet.

“You can begin testing proof-of-concept models right now. Start with incremental victories, then scale up. You don't need a Watson to perform automated cutting and pasting. Research existing automation capabilities, seek help from a knowledgeable vendor, and don't wait. You can actually learn a lot from your failures as you can from your successes. Sometimes automation reveals a botched process and brings people together.”

Some agencies are already taking Vorland's advice to heart. Earlier this year, the Department of Transportation announced its plans to establish an advisory committee on automation in

preparation for deploying automated vehicles in the near future.³ Likewise, the Department of Homeland Security's Customs and Immigration Services already employs an NLP virtual assistant named EMMA that reportedly fields up to 500,000 citizen inquiries each month.⁴ In late 2016, the White House released its own vision for artificial intelligence and automation in government, but questions still remain as to how the new administration will translate this vision into actionable policy.^{5,6}

Automation has the potential to generate incredible value in government services. By harnessing data and technology to engage more citizens, augment workforce capabilities, and improve employee satisfaction, automation paves the way for government of the future: innovative, exciting, and increasingly more in touch with the citizens it serves.

About KPMG LLP

KPMG LLP is a recognized pioneer in intelligent automation. Governments need a partner that can help integrate the technology with existing business processes and systems in order to realize the many benefits of intelligent automation. Our knowledge of functional use cases combined with our deep public sector experience enables us to advise organizations at each stage of their intelligent automation journey. kpmg.com/us/govautomation

About Government Business Council

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- 1 KPMG Government Intelligent Automation Forum, June 6, 2017. www.govexec.com/sponsor-content/government-intelligence-automation-forum/
- 2 Hoffman recently accepted a new position as Assistant City Manager for the City of Gainesville, Florida. www.mymcmedia.org/montgomery-losing-its-first-innovation-officer/
- 3 “USDOT announces new federal committee on automation.” Transportation.gov: January 11, 2017. www.transportation.gov/briefing-room/dot0717
- 4 “Automation could boost federal productivity—and save \$41B a year.” Nextgov: May 3, 2017. www.nextgov.com/emerging-tech/2017/05/automation-could-boost-federal-productivityand-save-41b-year/137549/
- 5 “Artificial Intelligence, Automation, and the Economy.” White House: December 2016. www.whitehouse.gov/sites/whitehouse.gov/files/images/EMBARGOED_AI_Economy_Report.pdf
- 6 “White House considers effects of automation ‘a policy challenge.’” Axios: June 29, 2017. www.axios.com/white-house-aide-says-automation-transforming-economy-is-a-policy-chal-2450480683.html