Creating an Analytics Culture

The only way to make fast, effective decisions consistently is by putting analytics first

It's no secret that federal agencies are drowning in data, with more flowing in every day. To make the most of that data, agencies have embraced data analytics systems and tools that help identify relevant patterns and foster accurate decision-making. But while these solutions are a critical step forward in managing data, it isn't enough. More data and new types of data flow through agency systems every day, and new threats and challenges merge that require fast, effective decisions.

What's missing in many cases is a culture of analytics—an institutionalized approach of data-driven decision making and operations across the organization. This approach puts analytics front and center in every decision, promoting a structured, thorough approach to decision making. And by giving decision makers access to relevant data in an understandable way, they can more easily focus on the big picture instead of spending time discussing and debating minor details that could delay important decisions.

"By getting the data into the hands of the domain experts along with the tools to access, understand and ask that data anything, you're ensuring that the decisions are being made by the people most qualified to understand the underlying business issues, priorities and goals," said Hjalmar Gislason, CEO of DataMarket, a company that specializes in making statistical data and structured data sources accessible.

For example, every agency must have the ability to react as quickly as possible to potential threats. As the threat landscape changes, data sources expand and it becomes critical to have the most current information in a solution that gives full visibility so decision makers can strategically determine where to invest scarce technology and personnel assets. Without an analytics culture, some part of the equation could easily fall through the cracks.

Identifying fraud, waste and abuse on a continuous basis is another area that requires an analytics culture. If, for example, an agency isn't constantly analyzing ever-changing data sets, it is likely to miss thousands of erroneous payouts to citizens who don't deserve them, or fail to identify new types of fraudulent claims.

Even the process of justifying budget expenditures is easier when an agency adopts an analytics culture.

"When you have a culture of analytics, it's much easier to react to unexpected data calls," said Monica McEwen, Federal Director at Qlik, a vendor that provides self-service solutions for data visualization and guided analytics. "Leaders today have to move fast. They should have all information on hand to inform that decision. For example, government leaders need to know how a budget decrease will impact their overall mission, or how to more effectively justify the need for additional funding."

Mission accomplished

While some areas of federal government are further along than others in promoting an analytics culture, certain segments within the Defense Department lead the way.

"It is simply insufficient in the world we live in to make strategic, global decisions purely based on gut feel," said Dr. Marty Trevino, Senior Strategist and Organizational Architect in a Defense Department Information Assurance Directorate. "With more and more data coming at us than ever before, it's important to figure out how to distinguish between the digital exhaust versus the data that's most important to help drive agency mission. Having a culture of analytics is critical to ensure that the data is used in a way that can help drive an actual decision."

To foster the culture of analytics, DOD researchers and implementers are working to converge the concepts of organizational design, business intelligence and data analytics, and data science. When complete, senior leaders will always be able to view a common operating picture of DOD's current state environment via interactive dashboards. In addition, they're incorporating predictive analytics to highlight potential issues before they become a reality.

"It's a response to a world moving at cyber speeds," Trevino said. "Yesterday's static dashboards and lengthy decision cycles won't work today."

Trevino's group has fully embraced the analytics culture. It uses a system that pulls information from multiple sources into an interactive, dynamic platform where business users and decision makers can dynamically view manpower, capabilities and missions together. The goal is to enhance situational awareness at the strategic level. "We want to be able to answer the fundamental questions at all times without a dependency on IT: Where are my people? What are they doing? Do we have our top-tier talent working on game-changing technologies? Are we deployed properly?"

The culture of analytics is spreading to other parts of the DOD as well. For example, the Army is piloting a program called Automated Continuous Evaluation System that analyzes dozens of social media, government and commercial data to identify employees or potential employees with troubling issues. By flagging these people as quickly as possible, the Army hopes to avert security concerns before they become reality.

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Providing data analytics tools to a handful of data specialists is a good first step, but it does not create an analytics culture. That has to come from the top. Many agencies have taken that step by appointing chief data officers to spearhead the mission. The White House appointed DJ Patil as the government's Chief Data Scientist, sending the message that the government has embraced a data-driven culture. Agencies must also find ways to fully embrace the culture change. Flowing down from the CDO, department heads must lead by example, incorporating data discovery into every decision. Start small with pilots to demonstrate the value of combining analytics with decision making, and build from there.

A recent survey by A.T. Kearney and Carnegie Mellon University found that organizational leaders who concentrate more on collaboration, instilling confidence in their teams and developing an active analytics community, get more value than those who focus solely on technology.

The last part of creating an analytics culture is using the right tools. Data discovery tools like those offered by Qlik can help agencies foster the analytics culture. With these tools, decision makers can turn data to actionable information through interactive dashboards that allow them to drill in many different directions, changing paths to answer new questions as they emerge.

Most importantly, don't be afraid to try something new.

"Don't be afraid to fall—just fall forward," Trevino said. "We have made numerous mistakes in our analytics and business intelligence efforts. We just make it a policy to fall forward. You can't make tomorrow better if you keep doing what you did yesterday and you're afraid to move forward."

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The Rise of the Federal Chief Data Officer

Over the past six years, the federal government has made great strides in managing, sharing and analyzing data. Data has become so overwhelmingly important that many agencies—from the Departments of Transportation and Commerce to the Federal Communications Commission, the U.S. Drug Administration, and the Center for Medicare and Medicaid Services— have appointed their own chief data officers (CDOs).

Unlike agency CIOs, which manage large IT organizations, CDOs are solely responsible for data analytics initiatives, policies and governance. The CDO is the steward of an agency's data assets and thus should continue to learn and expand ways leveraging solutions that allow an agency to securely and strategically maximize data's potential.

In a telling development, the White House named DJ Patil the country's first Chief Data Scientist and Deputy Chief Technology Officer for Data Policy— essentially, the federal CDO. Patil plans to find ways to provide maximum social return on federal data, create nationwide data policies, and establish best practices for data management.

The trend toward CDOs, and Patil's appointment in particular, is a strong signal of a permanent change in the way data is viewed and used in government. Not only does it show government's dedication to the role of data, but it is a major step toward open analytics and a true culture of analytics.