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Chief data officers evolve to be part cheerleader, part strategist

BY JASON MILLER

As federal agencies start naming chief data officers and placing them within their organizations--as required by the recent Foundations for Evidence Policymaking Act--they need to find someone who can be part cheerleader, part arbiter and part convener. But maybe their most important role is being that person who understands who the true owners are of the data and ensures those owners, the mission or program managers, accept that responsibility.

The CDO role across government is far from new. Several agencies, including the Transportation Department and the U.S. Agency for International Development – have had experts in those positions for the better part of the last decade.

What's different today, as compared to 3 or 5 years ago, is the recognition that having a chief data officer is a necessity to making data work for agencies.

"The CDO is the grease and the data is the fuel," said Ron Bewtra, the chief technology officer at the Justice Department. "I think the CDO role broadens the mission. I think most of your mission owners will believe they are getting the resources they need, and if they need another data set, they can go coordinate with the data owner. I think what we have to recognize is that data in-and-of itself gets more valuable when you combine it. There are new uses and new innovative things that may benefit other data owners in addition to the one who originally owned the data. It is trying to understand and pull out all that value."

PANEL OF EXPERTS



Jonathan Alboum, Chief Technology Officer, Public Sector, Veritas



Srinivas Bangarbale, Chief Data Officer, Commodity Futures Trading Commission



Ron Bewtra, Chief Technology Officer, Department of Justice



Col. Charles Destefani, Deputy Chief Data Officer, Air Force



Mark E. Krzysko, Principal Deputy Director, Enterprise Information Acquisition Analytics and Policy, Department of Defense



Anne Levine, Acting Chief Data Officer, Office of Economics & Analytics, Federal Communications Commission



Natesh Manikoth, Chief Data Officer, Federal Aviation Administration



Donna Roy, Executive Director, Information Sharing and Services Office (IS2O), Department of Homeland Security

Experts say that ability to bring people, data and systems together and then help the mission owners, federal executives and other public and private sector partners extract the true value of the data is how the role of the CDO has evolved over the last few years.

Bewtra said DoJ recently finalized its data strategy and gave its chief information officer, Joe Klimavicz, an **additional hat** to be its CDO.

“The question out there is how can we align our missions with the data strategy and the authorities of the CIO,” Bewtra said. “We believe it will improve our governance processes, our systems, our data and our security. It does help us use those authorities to make sure all the right players are at the table.”

Breaking down the siloes

Anne Levine, the acting CDO in the Office of Economics and Analytics at the Federal Communications Commission, has been working on data issues for about a decade. At the time, Levine said the commission hired a CDO without a solid focus or plan for how they wanted to use data.

But now a decade later, the FCC has come to the realization, like many organizations, the role of data is to support analysis for the mission.

“We’ve brought all the economists into one shop because the siloes were preventing the sharing of analysis skills and insights across the technologies,” Levine said. “Our analysts are incredibly productive and effective in pockets throughout the agency and they always have been. But there’s been no standard guidelines or best practices governing everyone, and there has not been as much sharing.”

Levine said the FCC has a draft data strategy, which will help lay some of the foundation to institutionalize those guidelines and best practices.

“We are developing a culture. We have very effective and productive analysts and they are wondering how can they help me. You have to create the relationship and some of that is by producing the basic stuff these guys have like dashboards and places to collaborate and places to build a community of data and share,” she said. “I don’t think you can go to the next steps of improving accessibility and usability on a routine or regular basis or having data science be more innovative every day unless you have these foundations laid.”

In many ways what the FCC is going through is the same across the government.

The Office of Management and Budget **released the final federal data strategy** and assigned agencies 16 goals to accomplish over the next year as part of the way to lay these foundations.

Manage data as a strategic asset

Jonathan Alboum, the chief technology officer for the public sector at Veritas and a former Agriculture Department CIO, said organizations, and particularly CDOs, must find the right incentives to gain cooperation where traditionally there hasn’t been cooperation before.



“It’s more of a culture question than it is a roles and responsibilities question in some way. Roles and responsibilities are important to document, but if it must be more than just a piece of paper you can wave around and say ‘you are supposed to do this or that,’” Alboum said.

“The culture piece really changes from the top down over time, but the responsibility for how data is created and managed ultimately comes back to the data owner. There will be responsibilities, expectations and accountability if you are an owner of data and you share it, you need to know how it’s shared, who it’s shared with and what they are doing with the data. You have to build that over time, but that should be an expectation at all levels of the organization. I think that’s inconsistently implemented.”



Alboum said when he was at USDA, the senior officials may have owned the data, but they didn’t manage it as a strategic asset and not everyone took responsibility around it.

He said the Federal Data Strategy and the requirement to have CDOs will help get agencies closer to managing data as a strategic asset, but that’s only one piece of the broader puzzle.

The Defense Department recognized the value of data more than 15 years ago when the push for secure information sharing rose after the Sept. 11 attacks.

Mark Krzysko, the director of acquisition data in the Office of the Assistant Secretary of Defense for Acquisition/Acquisition Enablers/Acquisition

Analytics and Policy, said the goal is to get everyone involved in data management to create a community.

DoD worked with the data stewards to document their rules, and then helped them understand how their efforts matter across all of the services and not just within their own silo.

“We do have taxonomy and we do publish it internally. The services have accepted it and mimic it within their services,” Krzysko said. “That was a huge deal. It was the model we asked the services whether this worked for them. We are all trying to solve the same mission. How do we help them do their jobs better without getting in their way?”

Unclear where the CDO should sit

The Air Force is one of those services that is adopting the taxonomy and other processes to improve their data management.

Col. Charles Destefani, the Air Force’s deputy CDO, said the service’s data strategy is in draft, but it just published a data services reference architecture in March that outlines the principle tenets of **data management** across five lines of effort.

As the role of the CDO continues to evolve, the DoD, the Air Force and so many other agencies are realizing how that person must clear obstacles to make data more valuable.

The Homeland Security Department still is **figuring out** where its CDO will sit—inside or outside the CIO’s office—and the role the person will play.

But Donna Roy, the executive director of DHS’s Information Sharing and Services Office, said wherever the CDO lands, one of their initial jobs

will be to deconflict as many as 28 policies and directives that address data and as many as four undersecretaries who have some ownership over the data processes.

“I’d like to see the CDO focus on understanding the value of data, especially in this tight fiscal environment where we are all fighting for critical small amounts of funding,” Roy said. “In order to understand how critical it is to manage and curate and expose and cultivate the data, we have to understand how to value it so we can treat it as an asset that needs some money applied to it to manage it.”

Roy said the evidence-based policymaking law is striving to put the CDO, the statistician and evaluation officers together to understand the value of using data to drive mission.

Cloud, AI will drive data’s value

Experts agreed that technology such as cloud services, artificial intelligence and machine learning are helping to accelerate the pace of making data more valuable.

Srinivas Bangarbale, the CDO at the U.S. Commodity Futures Trading Commission, said the move to the cloud let his agency more efficiently and effectively manage the more than 2 petabytes of data it collects.

“We are experimenting and [have] done some pilots with machine learning to try to catch more manipulation of markets without relying on whistleblowers as much,” Bangarbale said. “As we use more AI and machine learning, we also have to be cognizant about how we use it and the ethics around how we use it. There are restrictions on how

we can use the market data so it’s a balancing act and we have to protect the data because we deal with a lot of personal information.”

The Federal Aviation Administration is facing similar challenges as the CFTC, but on a much grander scale.

Natesh Manikoth, the CDO at the FAA, said his agency is implementing role-based access control and tagging more data to protect it and manage it better.

“We established a steering committee up front and sought one of them to be a sponsor of the data effort,” he said. “We want them to buy in so it’s not a CDO or CIO initiative, but a business initiative.”

Manikoth said the technology is making it easier to provide basic infrastructure where common practices can live. But it’s a matter of creating data literacy across the department where employees understand what their responsibilities are and what role they play.

Albourn said the challenges the FAA, CFTC and so many others face really come back to the idea of collaboration and ownership.

“Leaders need data to drive their agencies. When you connect the data to mission outcomes, that creates better engagement in this whole process,” Albourn said. “The incentive is positive program outcomes – whether it is reducing fraud or getting more people on a program, or whatever it is – that drive your programs.” 

