

Enriching the Soil for Data Innovation- Chief Data Officers Plant Seeds for Success



Recently, Jason Miller of Federal News Network moderated a panel discussion at the ACT-IAC Institute for Innovation conference and awards event, [Igniting Innovation](#). He counseled innovators against using empty words in their remarks. Rightly, Jason noted that “culture” is among several terms often used without enough specificity to convey insight. We also have heard Chief Data Officers speak at a high level about the importance of culture from the podium and in the press. With Jason’s counsel in mind, we wanted to understand the criticality of culture beyond the empty words and explore the impact of practices, processes, goals, and behaviors on Chief Data Officers’ transformative work.

In the interests of “knocking the dirt off” of culture’s impact on data innovation, we sought out the real experiences of several Federal data executives. We found that culture had concrete meaning and impact for them which translated into specific actions addressing cultural challenges that have real mission consequences. Unanimously, they agreed a real, actionable understanding of culture is key to the work of the Chief Data Officer. They noted that culture is a reflection of past practices and priorities. It defines the current state – a context-specific initiating point from which an organization can innovate and transform data usage in order to ensure solutions are fit-for-purpose. The existing behaviors and practices that make up the current data culture are the “soil” in which new behaviors “seeds” can be planted and thrive.



HARNESSING CULTURE

is key to advancing a data-driven organization

One of the longest serving federal CDOs, NOAA’s Ed Kearns, noted that culture exists for good reasons. If understood and respected, it can help accelerate improvements. NOAA has a long-standing data culture and many external organizations rely on NOAA for the provision of timely, accurate data. Despite deep commitment to its mission, NOAA’s systems, practices, and processes couldn’t keep up. Traditional practices dictated that NOAA’s data scientists and stewards owned both quality and delivery of data. Demand for NOAA’s data out-paced the capacity to deliver. They launched a big data project- a four year experiment, to deliver NOAA data through a consortium of commercial partners at almost no incremental cost to the government. The external partners offered industry expertise, scalable and tested platforms, and value-added services.



EXPERIMENTATION

drives positive changes in data sharing

This new way to deliver data served more customers, overcame capacity limitations, and enabled NOAA data scientists to focus principally on quality. Concerns about this approach evaporated when stakeholders were given the opportunity to learn about the new tools and systems, and opened new

possibilities for data use. The results of the “experiment” had a direct impact on fostering the culture of information sharing. Leveraging external, commercial partners provided the opportunity to serve the public and gain more value from the data, at a lower cost. Experimentation with new tools, platforms, and learning drove improvement.



COLLABORATIVE ANALYSIS

of live, trusted data enriches decision-making

At DoD, CDO Michael Conlin finds that culture and talent are his two biggest challenges. His CDO strategy is to be a central “force multiplier”. By providing useful capabilities, it is easier for people to comply and do what is needed. At DoD he observed that their current behaviors and tools presented special challenges to data sharing. Analysis is often constrained by dependence on 30-year old technology. People bring the results of their own data analysis to decision-making rather than the source data. Data sources, quality and analysis are held closely and therefore, are different from organization to organization. As a result, this discouraged shared accountability for results across organizations. The accepted decision-making processes pressed for consensus and “perfect data” which slowed decision-making.

So where does he apply effort that will change unproductive behavior and yield results? CDO-led meetings now require visible, authoritative data sources... and no slide presentations. This allows people to make decisions based on live data and persuasive discussion.

Similar to the NOAA experimentation above, centrally available training in new practices, data sharing, and tools improves data delivery and quality. Useful, speedy results without the need for procurement is quite an incentive for adoption of new behaviors and practices. This kind of centralized support also untethers data talent from organization-specific practices, limited tools, data, and perspectives. A central utility opens up data sharing to new, diverse disciplines that may provide great insight to solving problems.

Like NOAA, DoD needs people to be able to experiment, and sometimes fail, in order to get better results. So, Mr. Conlin urges celebrating both the outcome and the learning along the way to grow engagement and foster a “data-driven, test-and-learn culture” that “lets the data speak to the situation”. Encouraging openness and experimentation is doubtless new to many government organizations. To drive change, experiment with new tools and processes, support tools and training to encourage adoption, measure results, and implement what works. Mr. Conlin shares a wealth of perspective on the key aspects to attend to in elevating an organization’s culture. To dive deeper, please enjoy his recent LinkedIn article, [Data Science 101-A CDO’s Viewpoint](#).



SHARED DATA EXPERIENCES

- successes and failures - accelerate progress

From her government-wide vantage point as the Chief Statistician of the US, Nancy Potok sees multiple opportunities for improving the information available to make decisions, inform policy, and support mission success across government, and she plans to facilitate changes in data culture to advance these activities. [The Federal Data Strategy](#) and Annual Action Plan seed the development of a data-driven and

learning culture by launching cross-agency collaboration as a “force multiplier”. The first year of the Action Plan “establishes a firm basis of tools, processes, and capacities to leverage data as a strategic asset and align existing efforts”.

The plan calls for creation and sharing of “government-wide resources related to ethical data management and workforce training, and specific agencies will improve the use of specific data asset portfolios.... Agencies will also begin collaborating across silos to optimize the use of data to support Federal missions”. Dr. Potok advocates OMB’s catalyst role in formalizing standards setting and in collaborative governance that focuses on answering high priority questions and problem solving. Not surprisingly, then, the first item in the Action Plan is OMB’s coordination “across statutory offices on information policy development/implementation activities. OMB also will provide guidance on government-wide data standards/improvements required by statute”.

She believes that shared experiences and successes in using data will help organizations improve. But how best to encourage and institutionalize the experimentation behavior that underpins these possibilities, especially in risk-averse organizations? Dr. Potok emphasizes the need to incentivize and reward behaviors that encourage research, experimentation, testing, risk management, and even failure. With the Federal Data Strategy as a roadmap, strong, visionary leaders can achieve some early successes, sow the seeds of a stronger data culture, and influence the organization while the formal structures catch up.

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