Federal Agencies' Path to Data-Driven Decision-Making

MARKET TRENDS REPORT

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Introduction

Federal agencies, spurred by the Evidence Act, are on a path toward data-driven decision-making. At the core, it's a fairly simple idea: Use data to inform decisions rather than relying on observations or preset ideas. But turning the vast and ever-growing volumes of data available into a true strategic asset comes with a host of challenges.

Agencies must develop an agile strategy to integrate legacy and cloud systems, ensure ready access to data while controlling that access, and guarantee the integrity of all data in use. To move forward, they need to lay the foundations of data intelligence by implementing strong governance, data cataloging and data lineage, while also addressing the growing skills gap in cloud expertise. That requires a cultural shift within agencies and the government overall. And it starts at the top — by clearly defining the role of Chief Data Officers (CDOs) and their place within agency leadership structures.

Agencies recognize the need to reap value from their data. An August 2020 Data Foundation survey of federal CDOs found that 93% of respondents said agency leaders rely on data-driven insights either some or all of the time. But the challenges to efficiently marshaling their data are significant.

To learn more about how agencies can develop and implement a data-driven strategy, GovLoop worked with Collibra on this report. In it, we outline the challenges agencies face and the steps they can take in defining leadership roles and creating an agile data-driven strategy.

By The Numbers

80%

of data will be unstructured by 2025

$7.8 billion

billion is projected for federal spending in 2022 on vendor-furnished cloud products and services, representing a 4.6% Compound Annual Growth Rate (CAGR) since 2020

24 agencies

have selected an operational maturity assessment model for data and data infrastructure. Several agencies performed an assessment of current staff data literacy and data skills.

67%

of cloud computing initiatives will incorporate artificial intelligence or machine learning by the end of 2020

49%

of data worldwide, or 175 zettabytes, will be in the public cloud by 2025

$92.17 billion

is budgeted for federal IT spending in 2021

"Against the backdrop of a $4 trillion federal budget, the implications of evidence-based policy are massive."

- Foundations for Evidence-Based Policymaking Act of 2018

When Data-Driven Decision-Making Is a Mandate

The Challenge: A Massive Shift

The Foundations for Evidence-Based Policymaking Act of 2018, known as the Evidence Act, was signed into law in January 2019 and gave 24 large federal agencies a mandate to become data-driven enterprises and a roadmap for getting there. It requires agencies to appoint a CDO, create the position of Evaluation Officer, and establish multiyear agendas and evaluation plans. Additionally, the Office of Management and Budget in August 2020 released guidance on implementing the act and aligning it with key components of the Government Performance and Results Act Modernization Act.

Agencies have shown enthusiasm for achieving the Evidence Act's goals, though mixed with some uncertainty. In the Data Foundation survey, 86% of respondents said they knew what was expected of their role, but only 54% said they had a clear idea of how they would succeed.

Government agencies have been working toward a digital transition — accelerated by the COVID-19 pandemic — but the shift to a data-driven strategy is something of a new frontier. "They've got to look at this differently," said Aileen Black, Senior Vice President of Public Sector at Collibra, a data intelligence company. "They've got to manage and leverage the best and most important mission asset they have, which is data." And it's never been more essential to government agencies than now.

But agencies still face significant hurdles to achieving data-driven decision-making. They include dealing with disparate, siloed legacy systems with varying levels of security, a challenge compounded by COVID-19 shutdowns and widespread remote work. Agencies also are dealing with a genuine data deluge, with massive amounts of unstructured data pouring in from sources inside the expanding cloud environment, the Internet of Things and emerging 5G mobile networks.

With the demand for high-level cloud and security skills continuing to climb, the cloud skills shortage is widening across all sectors, which places further pressure on government agencies to recruit and educate talent.

All of this is happening amid a cultural shift into uncharted waters. Agencies need to clearly define and support the nascent role of CDOs, who need to be able to attract the resources necessary to implement data-driven policies, increase data literacy among the workforce and expand their community to sources outside government.

The Solution: Strong Data Governance

Agencies must build a culture of data intelligence. It begins with data governance, which manages availability, security and usability while providing a framework for enforcing policies. A strong, consistent data governance strategy enables greater collaboration within agency units, such as IT and business, and among outside agencies, leading to innovative solutions and, ultimately, better services.

Agencies should establish data governance "in a way that's strategic, that's thoughtful, but also is very informative to the nontechnical person," who needs to use it, said Ryann Swann, head of Collibra's Federal Practice. "Governance becomes imperative to treating data as a strategic asset and building the data-centric organization." Key steps in laying the foundation for data intelligence include developing a data catalog that uses metadata to define and organize an agency's data assets. A central repository for the catalog offers transparency while circumventing the problem of siloed systems.

Building a collaborative data-driven culture first necessitates developing a business glossary, which provides a common language shared throughout an agency and government overall. It also requires data domains, which define key terms within domains such as health care or national security, and map back to the business glossary. Ensuring data lineage by tracking where data originates and then mapping the relationships among data points as they move from system to system are also essential to ensuring data trust.

Best Practices in Data Governance

In addition to laying the foundation for data intelligence, agencies need to guarantee their data's availability and integrity. An industry partner can provide the experience, skills and technology to help guide the implementation of a sound strategy, deriving the greatest value from the data while meeting security, privacy and compliance requirements. Among the features to focus on:
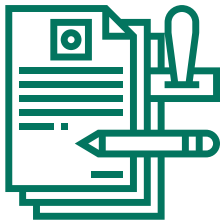
Policy and Security

A solution should be able to incorporate, support and enforce agency policies concerning data use, sharing and access. More importantly, it should focus on security, including protection of personally identifiable information (PII), and support policies ranging from the European Union's General Data Protection Regulation to the California Consumer Privacy Act. A solution that includes privacy by design will help control access to data and build in compliance processes that can be reported and tracked. Access control must be balanced with availability to those who need the data both within and outside an agency.

Practical Support

An enterprisewide data strategy needs a system that is user-friendly for knowledge workers in addition to data experts and other tech-savvy employees. It also needs to readily support migrations of applications and infrastructure to the cloud, while controlling what data should and should not migrate. In that way, a data strategy can accelerate cloud migrations and, by extension, the adoption of innovative solutions.

Access and Availability

While controlling access to those who have permission, agencies also have to make sure that their data and data catalogs are available to everyone who needs them. A solution should be integrated with business intelligence tools, such as Tableau, and analytic data warehouse tools, such as Amazon Redshift, Google BigQuery and Snowflake.
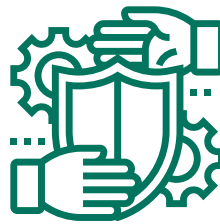
Ensuring Trust

Data-driven decision-making requires that users have faith in the efficacy of the data they're using. Multi-source integration helps make data catalogs more comprehensive and data lineage ensures its integrity. Trusted business reporting and elimination of data duplication fosters collaboration on the same data and reports, which shortens the time to realizing value.

FedRAMP Certification

The Federal Risk and Authorization Management Program (FedRAMP) sets standardized requirements for security assessment, authorization and continuous monitoring in federal cloud environments. Agencies should look for FedRAMP Moderate Impact authorization, which covers controlled unclassified information, such as PII, which is the bulk of sensitive information in government systems.

Use Case: Driving a Cultural Shift

A large federal agency recently adopted its initial data strategy, calling for a cultural change toward making data a strategic asset that's available to all users. Part of the shift is changing the emphasis on data from "need to know" to "responsibility to provide."

The move to adopting a data-driven culture is part of an enterprise journey to data intelligence. Achieving data intelligence is the result of connecting the right data, insights algorithms and people to optimize processes, increase efficiency and drive innovation. True data intelligence allows organizations to unlock the value of their data and turn it into a strategic, competitive asset.

As part of this journey, the agency has adopted several new cloud technologies and practices, including data governance, to enable better accessibility and availability to trusted data.

To support such transformations, agencies might take one of several approaches:

- Hiring a CDO to ensure that overarching data requirements, such as data quality, governance, privacy and security are addressed

- Undertaking a change management initiative to educate employees agencywide about the value of data to the mission and to improve overall data literacy

- Creating a Center of Excellence to provide a central source for best practices, standards, use cases and other resources applicable agencywide

- Identifying new technologies that can improve the effectiveness and efficiency of data initiatives

HOW COLLIBRA CAN HELP

Collibra offers end-to-end support for agencies in developing and implementing a data strategy, including FedRAMP Moderate Impact authorization for handling sensitive data in the cloud. The company's data intelligence offerings include tools for building out inventorying best practices, which helps with securing and simplifying user experience. With a global footprint and a dozen years of building data intelligence for public- and private-sector organizations, its platform covers many areas including data governance, cataloging, cloud-ready data, privacy protections and solutions such as Collibra Lineage, a native, automated lineage application.

Collibra, for instance, uses metadata to create a "catalog of catalogs," Black said, connecting business, technical and governance metadata, "so that organizations as a whole — no matter where they are or what type of work that they do — can find, understand and trust their data."

The company's expertise and offerings, available through GovCloud and other marketplaces, support both the policy and technology aspects of a complete data strategy.

To learn more visit: collibra.com/public-sector

Conclusion

Data has become the lifeblood of practically every organization in the public and private sectors. Turning all that data — both amplified and complicated by the cloud and new technologies such as artificial intelligence — into a valuable, usable asset is a top priority for government agencies looking to improve services in the most effective, efficient and cost-effective way possible.

Achieving that goal requires agencies to invest in data intelligence with a focus on governance, data catalogs and data lineage to ensure that the data they need can be quickly found, trusted and understood. They need to clearly define CDO's role and place in agencies' hierarchies, and develop a culture of data literacy and data-driven decision-making.

With so many important goals along the road to data-driven decision-making, finding a partner with the tools, talent and expertise to help agencies build out a comprehensive data intelligence strategy can make all the difference.

ABOUT COLLIBRA

Collibra is the Data Intelligence company. We accelerate trusted business outcomes by connecting the right data, insights and algorithms to all data citizens. Our cloud-based platform connects IT and the business to build a data-driven culture for the digital enterprise. Global organizations choose Collibra to unlock the value of their data and turn it into a strategic, competitive asset. We have a diverse global footprint, with offices in the U.S., Belgium, Australia, Czech Republic, France, Poland and the U.K.

For more information, visit collibra.com.

ABOUT GOVLOOP

GovLoop's mission is to "connect government to improve government." We aim to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 300,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to connect and improve government.

For more information about this report, please reach out to info@govloop.com.

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