



INFORMATION OVERLOAD IN THE TIME OF COVID-19: Good Data Practices Will Pay Off Now and Later

The COVID-19 crisis has inundated government agencies with data of all kinds, from information around patient symptoms and relief fund disbursement to economic recovery and unemployment claims. With so much data coming in, agencies are challenged to not only collect and store it, but also to make it available for analysis and decision support now and in the future. Taking the time to ensure data quality upfront by scaling their ability to discover, collect, cleanse, govern and catalog information quickly will help agencies better respond to the pandemic and strengthen data management moving forward.

“When we put best practices for data capture in place today, we enable governments to make better decisions tomorrow,” says Tino Mathew, director of public sector consulting at Informatica, a leading data management company. “In an era where so many decisions are data-driven, it’s essential to ensure the data we are collecting is of the best possible quality.”

5 Steps to Better Data Management

As governments consider their current data processes, it is easy to become overwhelmed by the task of modernization. Even if large-scale technology upgrades are not possible in the near future, it’s vital for agencies to

create a master data plan now — a plan that includes how they will handle the entire life cycle of data, from collection to analytics. To help create this master plan, Michael Anderson, chief strategist, public sector at Informatica, recommends a step-by-step approach that begins with self-assessment.

1. Discover

First, governments should take inventory of the data they already have.

“Know yourself first,” says Anderson. “Take stock of what you have, where it is stored and the format it’s in.”

Then, scan the environment and identify the sources of data and the applications they are associated with. If criteria for authoritative sources have not been defined, create a set of standards and circulate them through the organization. This allows data managers to prioritize authoritative data and eliminate questionable data from analytical models and other reports.

2. Collect

Governments should take a close look at methods used to collect data and make every effort to standardize processes. For example, if health care workers are collecting symptom data, they should be asking all patients the same questions and using a standardized electronic form to tabulate responses. Standardizing data entry methods allows agencies to create cleaner data sets and automate processing tasks.

But while comprehensive data standardization should be every government’s long-term goal, it’s not always possible in a moment of crisis.

“During the pandemic, an agency may be pulling data from nursing homes, children’s services and hospitals, and each might have a slightly different approach,” Mathew says.

If collection processes cannot be closely regulated at the ground level, agencies should find ways to compensate for the variations. For example, a modern data management

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system can automatically recognize and eliminate outliers and duplicate data.

Agencies should also consider new ways of collecting data from emerging streams such as Internet of Things (IoT) devices and sensors. Automated data sources can be more reliable as they are less subject to human error and hold much promise to enrich and expand the data flow already in place.

3. Cleanse

Because data is often gathered in contrasting ways depending on the protocols of groups and organizations, agencies must look closely at data sets to identify and eliminate corrupt or poor quality information. In a 2019 Center for Digital Government survey of 131 state and local government decision-makers, 66 percent of respondents said incomplete or outdated data was their agency's top data quality challenge.

It's important to correct inaccuracies and fill in the blanks if some entries are incomplete. Modern data management systems include data cleansing tools that leverage statistical analysis to review data sets based on predefined parameters. Any data that falls outside those parameters is set aside for human review. Some systems also utilize machine learning and artificial intelligence (AI) for data cleansing, speeding up the process and automatically compensating for incomplete data sets using statistical processes such as imputation.

4. Govern

Both large and small governments need a data governance council that includes decision-makers from various agencies within the organization. This governing body develops workflows and standards to maintain the highest possible data quality from collection to

REAL-TIME DATA AVAILABILITY IS CRITICAL

Lag time between data collection and analysis can be a tremendous barrier to intelligent data-driven decisions, especially in fast-moving scenarios such as a pandemic. To make the best choices, leaders need real-time access to information.

"That means bringing data together from many different sources to get a 360-degree view of the situation as quickly as possible," Anderson says. "For example, if a doctor can view a patient's past health records in a single click, they can make better decisions in time-sensitive situations."

While some lag can be inevitable, governments that work to streamline processes around data collection, cleansing and analysis will enhance their ability to process data more quickly.

analysis. In today's data-heavy society, the lion's share of a data governance council's enforcement work needs to be automated through a data management platform.

"If you're relying on manual processes to enforce policies, you're not going to be effective and efficient in a crisis like the COVID-19 pandemic," says Anderson.

5. Catalog

A data catalog is a searchable directory of available data sets, allowing users to see what's available and find specific information quickly. Structured data, such as information contained in spreadsheets or other common templates, is typically easier to catalog and extract. Unstructured data such as written documents can present a more formidable challenge.

"Even when it's been digitized and tagged appropriately with metadata, you're not going to know what's there unless you catalog it in a standard way," Anderson says. "All data, structured or unstructured, needs to be standardized and cataloged with context and glossaries."

Taking the time to standardize incoming data and add it to a catalog streamlines search and retrieval efforts

and enables automated analytics tasks with AI and machine learning.

Moving Forward with Data Management Modernization

Creating a master data management plan should be a top priority for government agencies in the time of COVID-19 and beyond. Part of this plan should include a long-term vision for adopting modern systems that can enable regulated data collection, storage, governance and analytics. Shifting away from legacy systems and established processes can be an overwhelming prospect, but it doesn't have to happen all at once. For many government agencies, data modernization will be a multi-step process.

"Cultivating a deeper understanding of best practices around data management is a key first step," says Mathew. "The sooner governments do that, the better off they are going to be — not just in the midst of the pandemic, but in all future decision-making."

This piece was developed and written by the Government Technology Content Studio, with information and input from Informatica.



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