

EMPOWERING A DATA-DRIVEN GOVERNMENT

INDUSTRY PERSPECTIVE



Hewlett Packard
Enterprise

EXECUTIVE SUMMARY

It's no mystery that there is a massive amount of digital data in the world today. From texts to tweets, financial statements to health records, legal documents to weather-tracking stats, there is more information available to – and created by – citizens than ever. In fact, many data scientists estimate that nearly 90 percent of today's data was created in just the past few years.

Not only is there simply more data, but there is a wider array of new types of data, many of which are complex and difficult to make sense of. Much of today's data is not merely traditional business records, but now includes machine and human data. Machine data refers to all of the data created by devices connected to the Internet of Things: RFID tags, cash registers, body cameras, activity trackers, home security webcams and more. But the most prevalent and quickly growing type of data is human data: the texts, tweets, Facebook posts, Instagram pics, emails and voice calls transmitted by humans every day.

The upside of this is that organizations have access to more data that can be used to make better business decisions and improve customer experiences. The downside? Most agency IT infrastructures were not designed to handle the complexity or speed of the data, let alone have advanced analytics in mind. In today's information-filled world, though, it is imperative that our government capitalizes on all this data, and transforms into a data-driven organization.

But what does it mean to truly be data-driven in a world that is bursting at the seams with this cacophony of information? GovLoop recently sat down with Diana Zavala, HPE Director of Analytics and Data Management, U.S. Public Sector, to explore how public sector agencies can maximize the power of this deluge of data to improve citizen engagement and employee productivity through data sharing and data analytics.

In this Industry Perspective, we will:

- **Discuss the pressing need for public sector agencies to be data-driven;**
- **Explore common challenges to becoming data-driven;**
- **Demonstrate how to predict the future with analytics;**
- **Examine how to become a prescriptive analytic powerhouse.**

MAXIMIZING THE POWER OF ANALYTICS FOR OUTCOMES THAT MATTER

Today's technological landscape is shifting from an environment where data needs to not just be stored and shared, but fully utilized to make informed business decisions. This shift is especially noticeable in the public sector. No longer are agencies merely service providers – they are expected to create value for constituents by offering new services rapidly and efficiently. The role of data in government has been elevated from simply a collection of information (now in digital form, instead of ponderous paper files) to an arena where an agency can predict and shape future needs and respond to the real-time requests of citizens and employees. The importance of using data in government is evident with the rise of the Chief Data Officer, a steward of all digital information charged with governance, strategy and value creation.

Consequently, agencies need to consider what it means to actually be a data-driven organization. According to Zavala, data-driven means fully capitalizing on all of the data available to your organization to make informed, data-backed decisions. “Being data-driven means fully leveraging one hundred percent of your relevant information - machine, business, and human - to create actionable insights which directly impact the business and mission of your agency,” she said.

Public organizations must aim in this direction. Data analytics can help agencies discover and understand what constituents want, and tailor their services to meet these behavioral expectations. This method is no different from commercial enterprises, that can offer up the latest eBook, fashion accessory or discount hotel based upon consumer preferences.

“The impetus over the past few years is on citizen-centric services,” said Zavala. “Agencies understand that in order to serve citizens better, they have to leverage information more than they have in the past and deliver experiences and services that mirror a more consumer-oriented model.”

For example, if you order a product online, you expect to know exactly when it will be delivered. If you apply for government benefits, you want to know when they will be approved and disbursed.

These insights allow agencies to streamline services, ultimately reducing costs and maximizing resources —all while creating value. Data analytics can shrink the budget burden and uncover inefficiencies in your organization's processes and potentially save millions of dollars.

Fighting Fraud In Healthcare

**\$4.5
BILLION**

*amount of false
claims prevented
since 1999*

**\$2.5
BILLION**

*amount of
improper payments
recovered*

For example, HPE has helped the Centers for Medicare and Medicaid Services **save more than \$7 billion** in inappropriate payments. By employing data analytics to examine fraudulent claims made by patients as well as physicians, it was able to proactively prevent more than \$4.5 billion in false claims. Data mining allowed the agencies to recover another \$2.5 billion in improper payments.

Here's another real world example: during the 2012 Superstorm Sandy disaster, ambulance services were suspended in certain jurisdictions when the storm pummeled the New Jersey coastline. By examining claims based upon date and location, the system was able to identify fraudulent claims for reimbursement requests that could not possibly be delivered while the storm was raging.

So data analytics is not only a tool to better tailor services to constituents, but it can also save the government valuable dollars across the board.

But employing data analytics isn't an easy process.

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Diana Zavala, HPE Director of Analytics and Data Management, U.S. Public Sector

CHALLENGES TO BECOMING DATA-DRIVEN

Government agencies face three major challenges to becoming data-driven organizations: silos and lack of alignment, technology gaps and an inability to derive value from this data deluge.

The first major issue is a lack of alignment between the data government agencies are collecting and the objectives they want to achieve with that data. Organizations aren't necessarily collecting the right information to meet the dynamic business/mission environment of today. They are awash with digital information, but often aren't sure how to organize it or even what to do with it. Furthermore, agencies are often working with data in disjointed efforts and siloed departments, so not everyone can access the necessary information.

"If you can't match the types of information that are required to meet your mission, you're going to have a gap, and that can lead to inefficiencies, increased risks and higher costs," said Zavala.

The second obstacle is the technology gap between the analysis that needs to happen and the IT infrastructure that agencies have

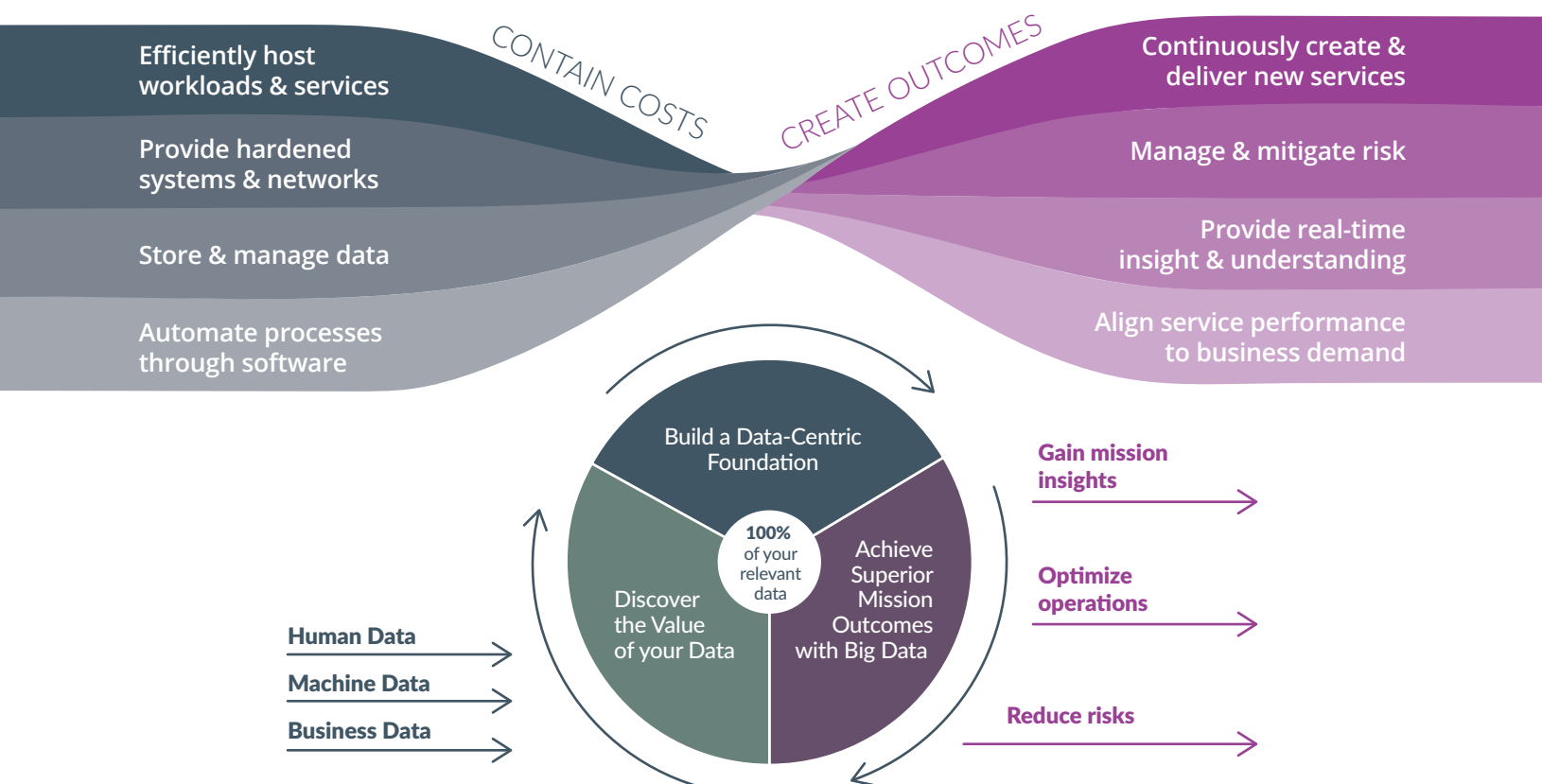
in place. Traditional systems and architectures do not have the computing power or scalability to process the variety of data at the speeds necessary to deliver actionable results.

Agencies need to assess whether their IT infrastructure is up to par to perform real-time data analytics.

A third challenge is an inability to turn data into actionable information. This goes beyond technological capabilities, and touches on the personnel necessary to mine the data and turn it into something useful.

In a [recent poll](#), HPE found that 23 percent of government respondents said strategy and talent are the two leading areas that are slowing government from having a comprehensive approach to leveraging data. Public agencies need to employ the right talent, as well as educate employees, constituents, end users and other organizations on the value of data analytics.

Accelerate your path to becoming a data-driven government



AGENCIES MUST MAKE DATA A PRIORITY

HPE's Zavala recommends focusing on three areas.

DISCOVER

the value of your agency's data.

This means **scrutinizing the data** you are collecting and applying the relevant information against the challenges your organization is facing. You need to identify what must be measured and analyzed to give your agency the right answers. Fraud detection, citizen safety, financial regulation, smart grids, disease tracking and eradication - these are just some of the areas where agencies are expanding the use of their own data sources in combination with external sources to derive new and actionable predictive insights.

"Discovering the value of your data is about aligning your business goals and challenges with the right impact levers," Zavala said. "If your business goal is to increase citizen satisfaction, you need to know the levers that influence that outcome."

Overall, the HPE approach is to create a prioritized roadmap, breaking down silos to create situational awareness and then aligning projects to meet prioritized goals. "The project execution should be agile in nature, but you have to have a goal in mind," she said.

BUILD

a data-centric foundation.

This means **employing the right technology**, as well as the right people. Starting with technology, agencies need to assess their current infrastructure, and whether they have the scalability and flexibility to deliver real-time results in an environment where 80% of the incoming data is now unstructured.

This doesn't necessarily mean a complete technical overhaul, but rather utilizing what is already in place and adding new, modern data solutions.

"Don't rip out your transactional systems," Zavala said. "Instead, add on new technologies to handle real-time streaming information. Also, increase computing power to support advanced analytics or tools for leveraging both structured and unstructured information."

According to Zavala, there's a softer, non-technical side. She added, "agencies should put proper governance practices in place and instill a cultural change where information is valued as an asset. Moreover, data exploration and creativity should be encouraged within the environment of compliance and risk mitigation."

TRANSLATE

data into action.

Agencies must **discover meaningful patterns** in the data and employ these insights throughout the organization.

"When you find those insights, you need to drive that value into everyday processes," Zavala said. "You must operationalize those analytics into your systems and business processes to receive a sustained benefit. Your functional teams need the right insights delivered to them fast, via the right medium, in an easily consumable form, such as the web or a mobile app."

Becoming a data driven organization is a journey. HPE recognizes this and can assist agencies in this transition, from examining the past to harnessing the power of prescriptive analytics to focus on the future. Ultimately, this approach allows agencies to shape their landscape to meet objectives more effectively and drive value.

"The ability to embed data analytics is at the core of becoming a high achieving organization," Zavala said. "Both in the public and private sector, customers expect very real results and given the speed of government and commerce, data analytics is now a requirement, not an option."

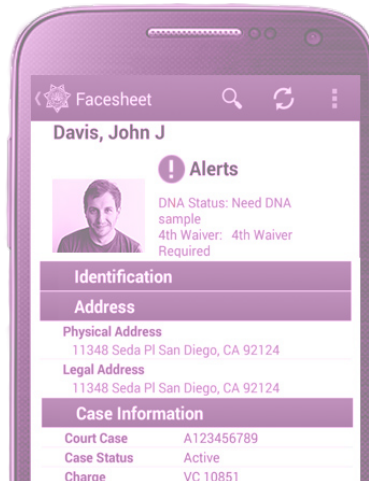
ACHIEVING OUTCOMES THROUGH DATA-DRIVEN INITIATIVES



Gaining insights into public health

HPE also recently helped educate citizens and protect our nation's public health by participating in the [OpenFDA Developer Challenge](#). HPE joined other private sector companies to apply its analytics expertise to publicly available health data and identify discrepancies in prescription drug labeling.

"It was gratifying to help the FDA solidify the importance of these open data challenges to help constituents understand exactly what's inside that medicine bottle," Zavala said. "Are there ways that we can mine data, social media data, and combine it with data that agencies collect and gain more insight from it?"



Maximizing productivity with real-time data

HPE was hired by **San Diego County** to streamline the way that both health inspectors and probation officers performed their jobs. The HPE team equipped the health inspectors with mobile devices that ran dynamic forms to document what was formerly a paper-driven inspection process. These real-time forms saved inspectors time and drove improved data quality.

Likewise, HPE developed a mobile app for probation officers. As a result, the county reported a 54 percent increase in productivity and an 88 percent improvement in the time it took to access probationer data in the field. Probation officers were able to spend more time out in the field, and less time in the office performing tedious data-entry tasks.



Protecting citizens with situational awareness

HPE recently partnered with the **city of Anaheim, Calif.**, to assist in emergency preparedness – as well as communication and coordination of emergency and law enforcement agencies – in the case of a wildfire, earthquake or other natural disaster.

HPE solved the problem of uniting disparate data sets that were both structured and unstructured in nature, and aggregated it in a way that allowed seamless information-sharing. Ultimately, HPE tore down silos and increased the situational awareness of the city emergency and law enforcement workers and enhanced public-safety measures.

Your Enterprise Data & Analytics Partner

HPE wants public agencies to succeed with their journey to become data-driven organizations, and has the tools and talent to make that happen. They provide services and solutions in advanced analytics, business intelligence, big data platforms and the Internet of Things.

"We help customers assess the current state of their information maturity," said Zavala. "And we can assist them in creating a roadmap to optimize data and turn that data into information to power their actions."

HPE offers a full portfolio of advisory services that includes everything from information strategy, advisory and consulting engagements to workshops to help agencies focus on key areas of alignment between mission information and the enabling IT that they need to achieve their goals. These services are designed to meet the government's increasing desire for predictive analytics, and unlock the value of these troves of structured and unstructured data.

HPE Analytics and Data Management Solutions

1 ADVANCED
ANALYTICS

2 BUSINESS
INTELLIGENCE

3 BIG DATA
PLATFORMS

4 INTERNET OF
THINGS

CONCLUSION

Public agencies have a vast array of data at their fingertips. Having a clear vision and priority for managing, storing, securing, and leveraging information provides the basis for becoming a data-driven organization. By treating data as an asset, building a data-centric foundation and discovering value to impact decisions and outcomes, governments can become empowered to serve citizens, reduce risk and cost and increase transparency. Government will then have the capability to deliver insights and enable new levels of citizen engagement, business agility and operational excellence.

About HPE

Hewlett Packard Enterprise is an industry leading technology company that enables customers to go further, faster. With the industry's most comprehensive portfolio, spanning the cloud to the data center to workplace applications, our technology and services help customers around the world make IT more efficient, more productive and more secure.

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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 250,000 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.

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