Democratizing Data and Analytics
The Path to 21st Century Mission and Operations Success in Federal Agencies

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DEMOCRATIZING DATA AND ANALYTICS
THE PATH TO 21ST CENTURY MISSION AND OPERATIONS SUCCESS IN FEDERAL AGENCIES

By Robert Silverman and Eric Druker

Civil government agencies today face a daunting expectation—that they use the vast amounts of data they amass to make quantum leaps in every area of mission and operations.

But the reality is that most of the people in an organization who might gain critical insights from the data don’t have direct access to it. Unless they’re in IT, or have degrees in statistics or applied math, they have a limited ability to discover important patterns and trends in the data, or use it to improve efficiency, cost savings and decision-making.

The pressure to find such insights is growing. Congress, the Administration, the public, and a broad range of other groups now believe that to be effective in the 21st century, agencies must be able to capture the full potential of big data and advanced analytics. This is seen as necessary not just to benefit the individual agencies, but also to meet the needs of their many downstream stakeholders.

These ambitious goals can only be achieved if the data and analytics are “democratized”—if they be can accessed by everyone in the organization who might need it, including people who don’t necessarily have data science expertise.

How can this be accomplished? Most technological approaches shut out the non-experts. Researchers, analysts and others typically must go through intermediaries to ask questions of the data, and often must adhere to pre-determined lines of inquiry. They don’t have the freedom to freely explore the data, and find the kinds of insights that can lead to game-changing improvements in operational efficiency and mission success. Those insights may as well be behind an impenetrable steel door.

But if agencies are to meet today’s expectations, that door must be opened.

A NEW PERSPECTIVE: ENGAGING A DYNAMIC PROBLEM DYNAMICALLY

Booz Allen has helped government and commercial organizations gain this capability through a perspective that differs significantly from that of other firms. First, we recognize that agencies cannot democratize their data and analytics through a purely technological approach—no matter how “cutting-edge” or powerful the tool. Opening up data and analytics to everyone is as much about people as it is about technology. It’s important to understand not just how people use data, but how they think about it, and how they view its possibilities in their day-to-day jobs. Otherwise, people will never connect with the data—they may not even want to—and expensive new technologies will be underutilized or ignored.

Just as significantly, we recognize that people throughout the organization need to be able to find these data-driven insights on their own, without the cumbersome process of going through a computer scientist or other intermediary.

With traditional approaches, if analysts or others want to see what the data shows about a particular subject, they have to have to ask the computer scientist to build the necessary databases. They then have to pose specific questions to the computer scientist, who translates them into computer language and queries the computer, and then translates the responses back for the analyst. This
time-consuming process often leaves analysts waiting days for a single answer—making it difficult to ask follow-up questions, chase down ideas and follow hunches wherever they might lead.

It is essential that non-experts have the ability to explore data and analytics independently. Only when people can see for themselves what’s possible—and have the hands-on ability to make it happen—will data and analytics become part of the fabric of an organization.

One of the most significant barriers to democratization is that analysts, researchers and others typically have to know beforehand the kinds of answers they might find in the data. This common mindset, a carryover from the era of small data, limits the ability to find new insights.

We are convinced it is critical that people be able to let patterns and connections in the data naturally emerge—to let the data speak for itself. This is what often leads to the kinds of insights that make it possible for agencies to make quantum leaps in mission and operations success.

OUR APPROACH: A STRATEGY BASED ON REAL-WORLD EXPECTATIONS

Our proven methodology for achieving those goals has what might be considered an unusual foundation. Instead of urging agencies to start over on a new path, we encourage you to respect the capabilities you have already developed. Traditional approaches tend to assume there is a clean-sheet opportunity, but integration is as important as creation for most agencies seeking to democratize their data and analytics.

We begin by working with you to determine what you really want to get out of enterprise-wide analytics. What could you accomplish in mission and operations, and in what ways could your ultimate customers—both internal and external—benefit?

The next step is to assess your current ability to achieve those goals. To what extent does your organizational culture foster the use of data and analytics at a grassroots level? For example, how likely will it be for you to get buy-in from your older, more established workers? How well does your current technology support democratization? Does it enable non-experts to use analytics? We work with you to fully understand your current state, including its often-complex interrelating pieces.

Once you have a clear vision of where you are going, we help you develop a road map to get there. Agencies are often tempted to make piecemeal improvements in data or analytic capacity to show progress. While that can have a short-term benefit, it will be counterproductive over the long term if investments and resources are not working toward the ultimate target—meeting the expectation that you use data and analytics to their fullest potential across your organization.

Here, as throughout our entire methodology, our multipronged approach is key. We help you lay out a strategy that addresses multiple fronts at once, in close concert.

Building a user-friendly organizational culture is essential. Technology-heavy approaches typically fail because they don’t fully consider the human element, such as why people might be hesitant to use data and analytics in their jobs, and what it will take to gain widespread participation.

We help organizations build a spirited culture of analytics by focusing on elements such as collaboration, experimentation, and buy-in. And we provide training that shows non-experts how to use data and analytics to get real-world results.

Democratization also cannot be achieved without the right technology. Organizations need to be able to bring together and integrate all the available data—both structured and unstructured—from a broad range of internal and external sources. They also need an analytic architecture that makes it possible to find the kinds of hidden patterns and connections that can be so valuable.

And there is a third basic requirement: Non-experts need to be able to ask questions of the data—without having to know programming languages or rely on an intermediary—and they need to get back answers they can easily understand and act upon.

These capabilities are difficult to achieve with the traditional approaches to data and analytics commonly used today. A key element of our methodology is helping organizations break free of such traditional approaches, by taking advantage of revolutionary advances in data science.

At the same time, we keep a strong focus on bringing together technology with people—with breakthrough self-service analytics and intuitive interfaces that use natural-language processing.
Throughout the entire process, we show you how to sustain and innovate your analytic capabilities. Essentially, we teach you how to fish for yourself so you can democratize data and analytics in every corner of your organization.

One of the most important lessons we’ve learned as management and technology consultants is that problems aren’t solved by tools alone—it’s how the tools are paired with people that counts. Our methodology is built on this idea. It uses the power of people to take the most advanced technologies to new levels. And it puts the power of data science in your hands, to go even further.

BOOZ ALLEN: YOUR ESSENTIAL PARTNER FOR ADVANCED ANALYTICS

100 years. We have applied it successfully at every federal agency and department, and across analogous commercial sectors. Our business is built on our understanding of how to help clients think through their goals, and then achieve them—often in groundbreaking ways.

Booz Allen’s expertise in data science and advanced analytics is unparalleled. Our data scientists—many of them among the earliest members of the profession—continue to invent breakthrough technologies and analytic approaches, transforming how business and government operate.

We now have nearly 600 data scientists—one of the world’s largest such teams—whose expertise reaches across every federal sector, including health, finance, transportation, environment, defense, intelligence, and homeland security.

Through the combined power of our management consulting and data science prowess, we have helped a broad range of civil government agencies democratize their data and analytics—in a way that meets and typically exceeds stakeholder expectations. It is an approach that has been proven many times over.
About Booz Allen

Booz Allen Hamilton has been at the forefront of strategy and technology for more than 100 years. Today, the firm provides management and technology consulting and engineering services to leading Fortune 500 corporations, governments, and not-for-profits across the globe. Booz Allen partners with public and private sector clients to solve their most difficult challenges through a combination of consulting, analytics, mission operations, technology, systems delivery, cybersecurity, engineering, and innovation expertise.

With international headquarters in McLean, Virginia, the firm employs more than 22,600 people globally and had revenue of $5.41 billion for the 12 months ended March 31, 2016. To learn more, visit BoozAllen.com. (NYSE: BAH)