

AN EXCLUSIVE SURVEY AND RESEARCH REPORT FROM BLOOMBERG BUSINESSWEEK RESEARCH SERVICES

Methodology

Bloomberg Businessweek Research Services and SAP launched a global survey in summer 2013 to analyze the views of public sector executives on the use and benefits of analytics.

103 C-level and line-of-business agency executives from the following regions were surveyed:

- ▶ 33% North America
- ▶ 31% EMEA
- ▶ 36% Asia

The organizations surveyed included small, midsize and large agencies:

- ▶ 29% Large (5,000+ employees)
- ▶ 30% Midsize (1,000–4,999 employees)
- ▶ 41% Small (500–999 employees)

Closing the Big Data Gap in Public Sector

Big data and analytics are held in high regard by agencies worldwide, but implementing government programs remains challenging.

BY JOE MULLICH

Big data is a big topic among government agencies around the world: Some 81 percent of top managers responding to a 2013 global survey by Bloomberg Businessweek Research Services (BBRS) strongly agree that “big data” is crucial to meeting their mission.

And they say it is for good reason. Most leaders view big data as critical in helping them make better decisions that will decrease spending, provide better public services and reduce threats. This strong endorsement amounts to nearly universal acceptance among agencies of the importance of big data.

Agreement is not necessarily the same as action, though. The BBRS survey uncovered significant gaps between what agencies hope to achieve with big data and how they grade their current performance.

Experts concur that the public sector will inevitably be transformed by analytics and big data. For example, the U.S. Department of Agriculture reduced the rate of food stamp fraud by 60 percent using data analytics that quickly identify merchants who traffic them illegally.

For many agencies worldwide, however, the BBRS survey suggests they must first find ways to address the challenges holding them back. These include resistant cultures, lack of trained staff and the technical issues involved in processing huge amounts of data from ever-increasing sources.

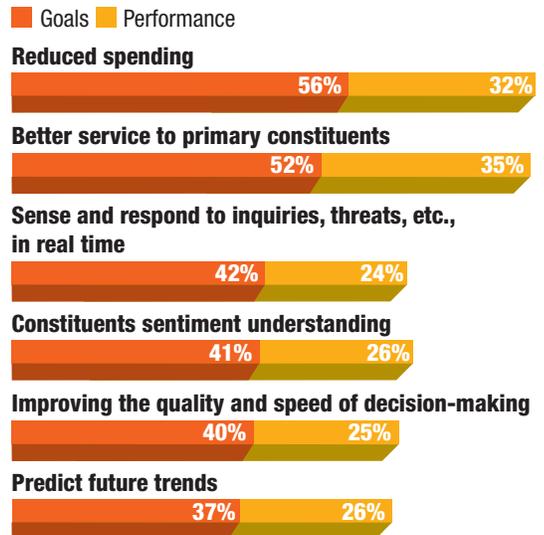
Transformation Is Underway Despite Obstacles

Bill Oates, chief information officer for the City of Boston, says agencies can only gain insight from big data by looking at it in innovative ways. “Put the right people in the right positions in your organization, and forge the right partnerships, so you have a more holistic approach to data than you usually see in government,” he says.

FIGURE 1

Big Data Performance Gap

The difference between what agencies hope to achieve with big data and how they grade their performance today is striking. (percent of respondents indicating goal was “very important” and performance was “very well”)



Base: 103 executives at small, midsize and large public agencies worldwide
Source: Bloomberg Businessweek Research Services 2013 Agency Analytics Study

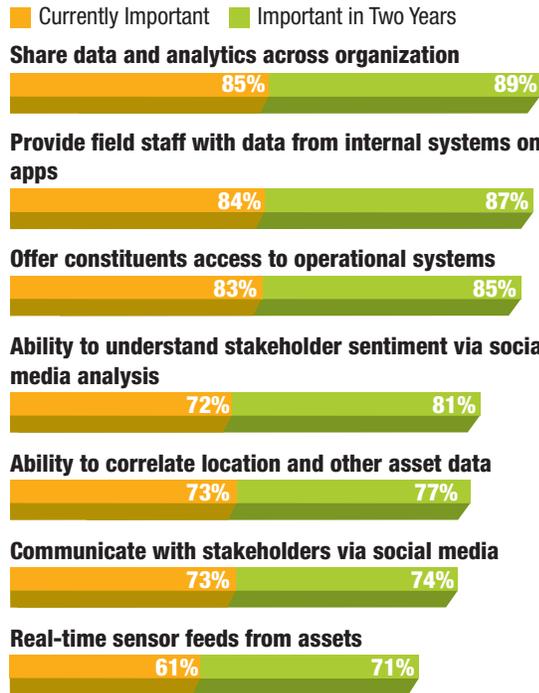
When asked about current goals for their agencies, many BBRS survey respondents emphasize serving the public better. But, tellingly, in every instance there is a significant shortfall in how well they think their organization meets these goals today.

For example, more than half (52 percent) of respondents cite the goal of “better service to primary constituents” as very important—but only about a third are actually meeting this goal (see Figure 1, “Big Data Performance Gap”). Similarly, approximately four out of 10 cite

FIGURE 2

Tech Hit Parade

Respondents were asked: Currently, how important are each of the following capabilities to your agency, institution or organization now and in two years? (percent of respondents indicating "important")



Base: 103 executives at small, midsize and large public agencies worldwide
 Source: Bloomberg Businessweek Research Services 2013 Agency Analytics Study

goals such as responding to threats in real time and understanding the sentiment of constituents as important. Only about one-quarter, however, feel they are achieving their objectives today.

Main obstacles to performance are revealed in the importance respondents place today on technology. Without the right tools, agencies say they are limited in their ability to share knowledge to drive results across the organization and unable to provide adequate training. "The need for big data and analytics is very well accepted," says Helena Sims of the Association of Government Accountants (AGA) in Washington, D.C. "People are just trying to figure out how to use the technology."

She points to the U.S.-based Recovery Operation Center (ROC) and oversight program.¹ Beginning in 2009, the ROC implemented a powerful data analytics system to screen 270,000 recipients who received much of the

\$800 billion appropriated in stimulus funds. The ROC red flagged recipients who had previous brushes with the law or who were receiving multiple awards. "What was striking about the center was that you could visit it, see the screens and understand the power of analytics in a dynamic, visual way," Sims says.

That type of imagination is beginning to sweep the world. For example, the Australia Post, the government-owned postal company, is using predictive analytics to better forecast the movement of cash flow at retail branches and its online portal. Now the Post is looking into using analytics to perform customer sales predictions on a daily basis, predict profitability of products and reduce customer churn. "Parcels is really where growth is in Australia Post, so protecting that market and stopping customers churning out is very high on the priority list," notes Armand Mizan, manager of business systems and development.²

Meanwhile, the Hong Kong Government Efficiency Unit is using analytics to help identify issues earlier, such as a critical shortage of baby formula milk. "On investigation, we discovered that there was a backlog of supply from the United Kingdom," says Wai Yuk, the Unit's assistant director.³

Given such success around the globe, it is no wonder that in July 2013 the French Government unveiled a five-part support plan for big data, noting that, "If we didn't act promptly, we would risk losing part of our economic sovereignty."⁴

Untapped Opportunities to Unlocking the Value of Data

Many respondents to the BBRS survey expect gaps between their future priorities and current performance to persist two years from now. For example, 55 percent say providing better service to constituents will remain a very important goal in 2015. Yet only 38 percent indicate they will meet this goal. Limited progress is expected in their ability to sense and respond to threats in real time, too. Fifty-four percent agree this will be very important, but only a smaller 39 percent are confident their agency will be able to perform this task well in two years.

1. <http://www.recovery.gov>
 2. Lui, Spandas. "Australia Post plans big future with predictive analytics." ZDNet, April 11, 2013. <http://tinyurl.com/ym9gr7>
 3. Bird, Jane. "Visual analytics in Hong Kong." The Financial Times, April 29, 2013. <http://tinyurl.com/6g9oe>
 4. European American Chamber of Commerce. "French (& German) Government Support for Big Data." July 4, 2013. <http://tinyurl.com/n3knkuh>

“We’re just scratching the surface. But there is no question that, moving forward, big data will play a big role in engaging and empowering our constituents.”

—BILL OATES,
CHIEF INFORMATION
OFFICER, CITY OF
BOSTON

Despite the perceived shortfalls, many technology capabilities that can leverage big data to meet agency missions are strongly endorsed. For example, more than eight in 10 BBRS survey respondents say it is important now to share data and analytics across the entire organization, provide field staff with data for use with mobile apps and offer constituents access to operational systems. And they see no flagging in the need to do so by 2015 (see Figure 2, “Tech Hit Parade”).

That is not surprising, because the effective use of big data depends on the savvy use of technology and tools—and in most cases, no one tool will suffice. Most successful rollouts depend on multiple tools across the organization, including the use of real-time analytics, predictive analytics, advanced visualization and self-service software.

For example, the Nomura Research Institute (NRI) is analyzing traffic jams in Japan using data from sensors around the country and location data from 12,000 taxicabs. Hiroshi Terada, general manager of ERP solutions at NRI, says, “an ordinary relational database took several minutes to analyze the 360 million data records, and we had problems with real-time data processing.” When NRI implemented more sophisticated in-memory computing technology, it was able to analyze those records in just over one second and take real-time actions that had immediate impact.

Expected and Surprising Issues

So what challenges are holding agencies back? Budget limitations are a big limiting factor, cited by more than six in 10 of the BBRS survey respondents (see Figure 3, “Analytics Challenges”). Beyond money, more than one-third point to such stumbling blocks as a shortage of trained staff, too much data to process and a lack of executive understanding.

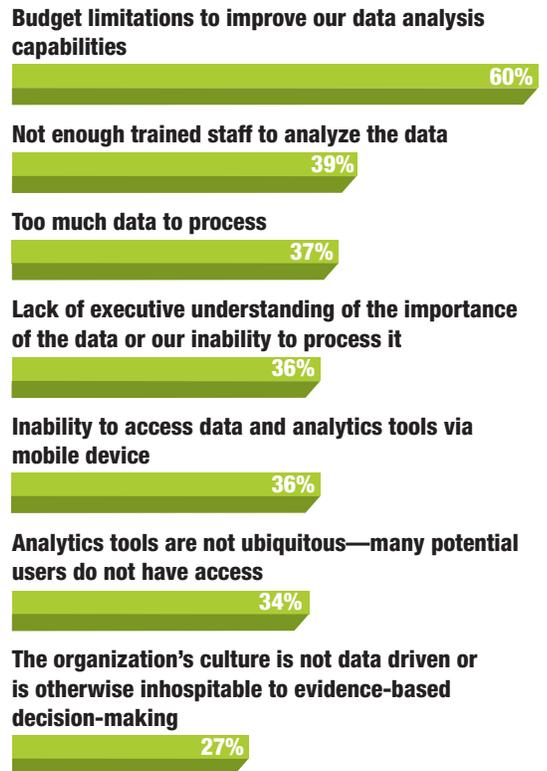
And one surprising survey finding: Only 27 percent of respondents feel held back because their culture is “not data driven or otherwise inhospitable to evidence-based decision-making.” However, previous BBRS research indicates cultural barriers are often underestimated.

Boston’s Oates has seen government work effectively by reaching out to other parties in the community to

FIGURE 3

Analytics Challenges

Respondents were asked: Which of the following are the biggest challenges facing your agency, institution or organization in using data and analytics tools to achieve its goals or meet its mandates? (percent of respondents; limit of 5 answers)



Base: 103 executives at small, midsize and large public agencies worldwide
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learn how to use big data most effectively. In the case of Boston, the city is working with universities and neighborhood groups to understand how they use data to make neighborhoods safer. Cities around the world are looking to collaborate to find ways big data can address issues that cut across culture, border and language barriers, such as security and food safety.

“We’re just scratching the surface,” Oates says. “But there is no question that, moving forward, big data will play a big role in engaging and empowering our constituents.” •

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Innovation Bridges Public Sector Goals vs. Performance Gap

The new survey, qualitative interviews and report from Bloomberg Businessweek Research Services clearly shows that most public sector agencies are struggling to deliver better service to their citizens while contending with severe financial constraints. But a host of technology innovations can help ensure safety, further improve quality of life and increase confidence in government. SAP's public sector industry team presents some ideas on how public sector leaders can bridge the gap between what they want to deliver and what their budgets will enable them to do.

What are some leading-edge innovations that can help public sector agencies harness the power of big data?

The public sector is emerging as the single largest producer and consumer of big data and will benefit greatly from the innovations we deliver. We think the SAP HANA platform should play a key role in helping public sector agencies rapidly and easily crunch very large volumes of granular data and take immediate action—which is where traditional relational databases fail.

Modern analytical tools powered by the SAP HANA platform can help agencies exploit the opportunity of big data by empowering users to access information anywhere, adapt to changing conditions, more accurately predict outcomes and, ultimately, make better decisions. Analytics tools are now much more intuitive and powerful, and they are no longer the domain of a select few data analysts and scientists. Instead, real-time analytics presented in easy-to-digest visual form are now available for all stakeholders.

How does a public sector agency get started, given budget constraints?

Agencies should identify and prioritize use cases that could provide value to the public and that big data can address. They should also take into consideration the technical and organizational feasibility, along with the potential value of the identified use cases.

Target the highest value use case(s) first and then consider taking a phased approach to deploying a big data framework that is optimized across devices and delivery options—cloud, on-premises or hybrid. Next, implement an integrated real-time reporting and analytics solution and make it available.

For more information, please visit the SAP public sector technology Web site:

www.sap.com/publicsector

SAP Recipe for Success

- ▶ **SAP HANA** platform to handle your big data challenges
- ▶ **SAP BusinessObjects Business Intelligence and SAP Lumira** enable every individual in the organization to easily visualize big data and get unique insights anytime, anywhere
- ▶ **SAP Predictive Analysis** empowers business users to get predictive insights easily, model alternatives and take action based on advanced analytics

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