

Data and Information as Strategic Assets: Insights from Dr. Simon Szykman, Chief Information Officer, U.S. Department of Commerce

By Michael J. Keegan



The federal government invests billions on information technology each year to help agencies accomplish their missions. IT enables federal agencies to do this more effectively and efficiently. Yet fully exploiting the potential has presented long-standing challenges. Many federal agency CIOs are responding to these challenges by focusing on the enterprise and coordinating across boundaries.

The U.S. Department of Commerce is one example. Commerce's leadership has successfully tackled one of the most significant challenges facing senior IT leadership—the requirement for greater empowerment of decision-making to drive efficiencies and improve effectiveness of IT.

What is the information technology strategy of the U.S. Department of Commerce? How has Commerce changed the way it does IT? Dr. Simon Szykman, Chief Information Officer at the U.S. Department of Commerce, shares his insights on these topics and more. The following is an edited excerpt of our discussion on *The Business of Government Hour*.

What are the responsibilities and duties of the chief information officer at the U.S. Department of Commerce?

Dr. Simon Szykman: The Department of Commerce has a dozen bureaus pursuing missions relating to commerce. In this federated IT model, my role is principally to provide strategic direction and leadership on a variety of initiatives (including cost savings and shared services) that have department-wide relevance. I develop policy guidance and conduct oversight for IT investments within the department. Unlike some CIOs, I do not manage the operational IT infrastructure across the entire department. Those activities are typically done at the bureau level. I have two deputy chief information officers. One is focused on management and business operations, while the other serves as our chief technology officer.

We also have a chief information security officer, who is responsible for cybersecurity policy, compliance, strategy, and providing direction for cybersecurity across the department.

Given the department's federated IT business model, what are the top challenges you face and how have you sought to address them?

Dr. Simon Szykman: My number one challenge is cybersecurity; it has been a weakness for the department for some time. However, we've made significant improvements. We still have work to do. The second challenge is working within this fiscal climate and the budgetary pressures we face. We have to identify opportunities for cost savings while maintaining the quality and effectiveness of our services. The third challenge is focused on improving the quality of services we deliver.

Commerce views information and technology as strategic assets critical to accomplishing its mission. Would you tell us about your strategic IT vision for the department?

Dr. Simon Szykman: Information technology is definitely a strategic asset for the department. This is because many of the department's missions rely heavily on information and data—from climate modeling and weather prediction, to supporting innovation through the Patent and Trademark Office, to the research that goes on at the National Institute of Standards and Technology. We rely heavily on IT to support our mission components, but IT is the enabler. Our real asset is the information and the data we use in our products.

The department has been developing a strategic plan and we're working to align our IT priorities to support [it]. For example, we have a greater focus on data. As a result, we see the unpublished data we have as an untapped asset. What can we make available that can be used to create new products, new businesses, which can ultimately lead to job creation and help foster economic growth?



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The strategic vision for the department as a whole, and the importance of data within that strategic vision, is one of our key IT priorities. We do have a variety of other strategic drivers that follow general technology trends—what’s happening in the commercial and consumer markets and how these technologies can be used to support our mission, the technologies that people in the department want to use, and the kinds of technologies that our external customers and stakeholders expect to see when they’re interacting with Commerce.

There is also value in distinguishing commodity IT from mission IT. Commodity IT encompasses technology and services that are common across the department and not mission-specific. For example, e-mail is a department-wide technology representative of commodity IT. It can be consolidated and operated more cost-effectively.

In 2012, you were charged by the department’s senior leadership to develop, in consultation with the bureaus, an IT Portfolio Management Policy. What were the reasons for pursuing such a policy? Would you tell us more about the actual process?

 **Dr. Simon Szykman:** The development of the IT Portfolio Management policy was led by me with participation from the bureau CIOs at Commerce. We did this to get buy-in in advance. Everybody [had] a voice in the development of the policy, and in fact, the effort was strengthened by the feedback provided and recommendations and suggestions made from the broader community.

We pursued a collaborative approach because it was about strengthening the department CIO, the CIOs at the bureaus, and the way we manage IT. Giving more control over some IT decision-making at the bureau level was also a key cornerstone.

Bureau CIOs may not have had the level of visibility or control over decision-making and funding that they prefer. A good sum of the IT spending actually takes place within the programs; 100% of every IT dollar is not under the direct control of the bureau CIO. From a governance perspective, the delegations in this policy did enable CIOs to have more visibility within their organizations, but also to drive change more effectively. We now have consolidation of IT staffing under a bureau CIO as a result of the policies and the provisions in this portfolio management policy. This gives bureau CIOs more influence on the performance of staff and gives them more control over what’s going on within their bureaus.

What have you done to strengthen the department’s IT capital investment process to ensure that investment decisions are mission-aligned and cost-justified?

 **Dr. Simon Szykman:** We’ve been significantly improving the processes, how the Commerce IT Review Board operates, its structure, activities, and the mechanisms that we use to improve the overall oversight that we’re providing for capital planning and capital investments.

For example, we’ve changed the composition of the board. The board is co-chaired by the department CIO and CFO with core representation of bureau CIOs. Today, we’ve expanded the board to also include representation from the department’s acquisition and budget organizations, respectively. We have a new Office of Program Evaluation and Risk Management, which is also represented at these meetings. This is key as it helps us understand as part of our review the risks associated with these major investments. We’ve also expanded the board to include more regular participation from the program management community.

Our oversight capabilities have improved significantly. In addition to our oversight processes, we implemented the Office of Management and Budget’s IT dashboard [which] inventories all the department’s major IT investments. We report on these monthly, including CIO ratings for all these major investments. This improves transparency for the general public, but has also required us to develop a new set of assessment criteria and functions that should lead to a reduction in risk and better performance for all of these projects.

Would you elaborate on your efforts at Commerce to pursue cost savings and efficiency initiatives?

 **Dr. Simon Szykman:** We are seeing documented savings with infrastructure consolidation as part of the government-wide data center consolidation initiative. We are also doing strategic sourcing, consolidating the acquisition and purchasing of technology, hardware, software services to buy in larger quantity and drive cost down.

Commerce had over 100 contracts for buying PCs; today, we have a single strategic sourcing vehicle across the entire department. We’re realizing 30% to 35% savings ... on the order of \$8.6 million just on PC purchasing solely by going to a single contract.

We’ve [replaced] desktop printers with more efficient work group printers. We’re looking to consolidate our mobile phones to a single vehicle for better pricing. We’re also

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doing this with our software purchases. We are pursuing shared services initiatives (such as help desk consolidation & network consolidation within the headquarters building.)

Mobile computing is a versatile and potentially strategic technology that improves information quality and accessibility. Would you tell us about the department-wide strategy for mobility and the mobile device management program?

 **Dr. Simon Szykman:** Our department-wide mobility strategy is lean. Every bureau can still manage their own mobile devices and create their own enterprise services, but we have a single department-wide contract for acquiring mobile device management technology. The single standardized contract gives us better pricing and makes it easier if we choose to consolidate and go with one service provider to support the whole department.

There are bureau-level strategies for mobility as well. For example, the Census Bureau for the 2010 decennial census issued government-purchased laptops to every temporary employee. The bureau would like to reduce the cost of the 2020 decennial census. They're talking about a variety of options; one might be to allow a Bring Your Own Device (BYOD) approach or a virtual desktop infrastructure. This ... is an example of how bureau-level strategies must sometimes go beyond department-level strategies to achieve mission delivery.

I'd like to discuss "open data" and "big data." What do these terms mean? How are they at the forefront of government tech policy, and to what extent do they represent the next phase of technological revolution in the federal government?

 **Dr. Simon Szykman:** Open data and big data are distinct trends. In my view, open data focuses on how the government can more effectively use the data it has, but more importantly, share it to increase transparency or provide more information to stakeholders so they understand what the government is doing and hold it accountable.

The department has a new strategic focus on data. Right now, we publish only a small portion of the data we collect. If you're looking at weather data we're talking literally petabytes per day that we acquire, analyze, and disseminate. The idea is

that, by increasing the amount of available data, industry, citizens, or companies might identify new and innovative ways of using that data, which could lead to new jobs, new markets, and new products providing economic benefit to the country.

Big data focuses on scale and complexity. At Commerce, the big data issue is linked more directly to the mission delivery of our bureaus. The Census Bureau collects data on over 320 million households across the United States. NOAA and the National Weather Service deal with petabytes of data per day. NIST deals with large data sets to support different aspects of their research mission. The Patent and Trademark Office has documented patents going back to the 1800s. The way big data is emerging from mission delivery varies from bureau to bureau. As a result, we don't have a single big data strategy or big data initiative for the entire department.

What are the characteristics of an effective leader, and does the concept of leadership need to shift because we're living in an increasingly networked world?

 **Dr. Simon Szykman:** An effective technology leader has the ability to think strategically, articulate a vision, and be a good communicator and consensus builder. Today's government IT leader needs to be agile, more adaptive in following and anticipating commercial IT trends, and much more customer-focused. ■

To learn more about the U.S. Department of Commerce, go to www.commerce.gov.



To hear *The Business of Government Hour's* interview with Dr. Simon Szykman, go to the Center's website at www.businessofgovernment.org.



To download the show as a podcast on your computer or MP3 player, from the Center's website at www.businessofgovernment.org, right click on an audio segment, select Save Target As, and save the file.



To read the full transcript of *The Business of Government Hour's* interview with Dr. Simon Szykman, visit the Center's website at www.businessofgovernment.org.

Editor's Note: Since this interview, Dr. Szykman announced he would be leaving federal service.