



# CONVERSATIONS ON BIG DATA

A podcast series on putting analytics to work at federal agencies



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Data analytics offers a powerful way for federal agencies to target resources and improve decision-making.

The following excerpts are from a discussion with Gerald Ray about the challenges, opportunities and lessons he learned from his experiences managing analytics activities at the Social Security Administration, where he is deputy executive director in the Office of Appellate Operations.



**Q: What are the essential ingredients for a successful analytics program?**

**A:** The key thing is to put the data scientists with subject matter experts. You have to have someone who is very knowledgeable about your program so they can help the data scientists map through the issues you need to analyze. The data scientists are generally very good at doing the analysis themselves. But you also need the subject matter expert to tell them what part of what they're finding is relevant and what's not, and to guide them and change the direction to get it more on task and more appropriate for what you need.



**Q: What were the most important things you learned and how have they changed the way that your organization is operating?**

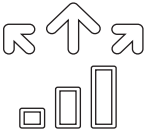
**A:** One of the key challenges is getting people to change. The data itself is a good way to do that because if you can visualize the data, you can instantly show people that this isn't what they expected. So you use the data to show, here's the problem, and here's a possible path for correction, and that gets people to change more than almost anything else.

Feedback is critical to changing human behavior. Otherwise, people will continue doing what they've been doing.



**Q: Why do you think visualization is so important?**

**A:** I can show patterns from the visualizations. If something is different and it jumps out, people can see that instantly. They don't want to be the guy who's different, but being different doesn't mean that you're doing it wrong. You might be the only one who's doing it right. As we do the data analysis, I encourage all of our people, not to draw conclusions that if this is different, it must be wrong. If it's different let's figure out why.



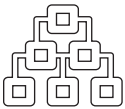
**Q: If you could wave a magic wand, what additional changes would you make to further improve the use of analytics at SSA?**

**A:** The commissioner is actually waving that wand as we speak. She would like this type of data analytics driven across the agency. She's created an academy to train people on how to do this, and I'm one of the people involved in that academy, giving that training and providing that information and pushing it across the agency.



**Q: Why do you think some agencies struggle with their use of analytics?**

**A:** There are a couple of core problems. One is they're not particularly familiar with it. The other piece of it is that many agencies don't have enough data scientists, or the data scientists are removed from the operational people, and if they're not consulting with each other, they simply go off, in different directions and you don't get what you really need.



**Q: What mistakes do you think agencies make when setting up or running analytics programs and how do you think they can avoid them?**

**A:** It's pretty common to try to set up data analytics and have a group that does it for the organization. The problem is that many of the problems are operational. They're found at a lower level. It's good to have a group doing analytics at a high level, such as clustering analysis or natural-language processing, but you don't want everyone doing those things. They're resource intensive and take a while to build.

On the other hand, you can have data analytics at a smaller level done very locally and operationally. You want to sprinkle some data scientists around to consult with and do some data analytics at the operational level. I'm trying to train all of the components to do the smaller-level data analytics, the visualizations, heat maps, things like that, where they can pull data that they have readily available and visualize it and analyze it.

Excerpts have been lightly edited.



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