

Chance (Spring 1996)

Statistician: Measure Thyself

"Performance measure" is the latest buzzword in Washington. The Administration launched the National Performance Review and Congress passed the Government Performance and Results Act (the GPRA, pronounced "Gep-rah"). Both are sending government employees scrambling to measure their organization's performance and show improvements.

It used to be that, if you called some government agency for information, you would be put on hold for three, maybe four days. Now, you might call and get a recording that says leave your question and your telephone number and they'll respond in 24 hours. The next day someone from the agency calls to say they haven't the slightest idea of how to answer your question. After you hang up, they check off that they've responded within 24 hours. Their supervisor is pleased with their performance indicator. You, however, are still in the dark. Under the old system, you would have at least gotten your answer, if you waited three more days.

Agencies are so desperate to come up with performance indicators that make them look good that they have even come to the prestigious National Academy of Sciences for help. Some had difficulty finding the Academy, not realizing that it's listed, in the white pages, under "P" for prestigious. (I always look for it in the yellow pages under "Science Academies--Used.")

It's ironic to ask the Academy of Sciences how to improve performance: the Academy is the only organization that's run with both government efficiency and academic effectiveness.

The Academy appointed a team of various scientists, however, and their head coach sent them out to study how to improve the performance of government. The mathematicians thought they could prove it was impossible. The economists thought all along that you could assume it was impossible. The statisticians, however, remained to be convinced. "You never really accept the null hypothesis," said their spokesperson.

The computer scientists developed an algorithm to improve government, but were afraid to run it for fear that it would never terminate.

The social scientists felt up to the task and marshalled their forces to study how government performance might be improved. Anthropologists with research experience on atavistic throwbacks went on a field trip to unearth bureaucrats at the Department of Agriculture. "I found a bean counter," exclaimed one of them. "Do you mean a statistician or an accountant?" asked another. "Neither, this fellow's job is counting beans."

Psychometricians descended upon the Department of Education. There they measured the IQ required for someone to complete a student financial aid form. "The distribution appears to be bimodal," said their leader. "Either you have to be a near genius to figure out how to fill out the form, or a complete idiot for trying."

Survey methodologists went to the Internal Revenue Service to help them measure how many people cheat on their taxes. The survey experts soon came up with the right question:

As you know, most people cheat on their taxes these days. How often would you say that you do so?

- All of the time
- Most of the time
- Some of the time
- Just once

Psychologists went to the National Science Foundation to help them design better rejection letters. First, they developed a scale to measure the disappointment of applicants who are turned down. (A Likert-or-not scale) What they learned was to focus instead on the envelope carrying the rejection letter. The new envelope now carries a likeness of Ed MacMahon under which is emblazoned: "Professor Smith--If the number of your grant application matches the winning number, you may have already won a \$10 million NSF grant."

When all the scientists returned to the Academy to report on their findings, the head coach expressed disappointment with their performance. "You've got to do better," he implored. "Now, let's go back out there and win one for the GPRA."