

Best practices to prevent the federal government from blowing its technology budget

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With the U.S. federal government investing billions of taxpayer dollars in executing technology programs, wouldn't you like to know where this money is going? A new study has identified ways to reduce federal spending in the execution of these taxpayer-funded technology programs.

To monitor the execution of these programs, the [federal government](#) establishes a baseline, which is an aggregate plan consisting of the program's planned budget, schedule and scope. The problem is that federal technology programs are re-baselined several times, which means if the baseline is changed, it can appear as though a program is not over budget when in fact it is over the original planned budget.

New research in the INFORMS journal *Manufacturing & Service Operations Management* investigates the drivers of these baseline changes and identifies mechanisms to reduce these changes, thereby helping improve utilization of taxpayer contributions associated with such programs.

"Taxing the Taxpayers: An Empirical Investigation of the Drivers of Baseline Changes in U.S. Federal Government Technology Programs," written by Dwaipayan Roy, Anant Mishra and Kingshuk Sinha, all of the University of Minnesota, looks at archival data on 240 U.S. federal [government](#) technology programs across 24 [federal agencies](#).

"We find significant savings can occur by reducing baseline changes in programs of greater scope if federal agencies and contractor firms invest greater efforts in componentizing a program into smaller work units and identifying managers with high levels of technical and practical knowledge in '[program](#) management'—a competency critical for managing multiple interrelated projects," said Roy, professor in the Carlson School of Management.

"Baseline changes can serve as early warning signals for federal agencies and contractor firms to identify programs that may be facing execution challenges and enable them to make mid-course corrections," continued Roy.

Another key finding is that federal technology programs using the agile

methodology experienced more baseline changes.

"Scope creep can be higher in such programs, as these programs can often lack sufficient upfront effort in developing the initial baseline and depend too much on making adaptations during execution. The upfront effort is actually critical for better managing adaptations and avoiding the time-consuming approval process needed for revising a baseline," added Roy.

More information: Dwaipayan Roy et al. Taxing the Taxpayers: An Empirical Investigation of the Drivers of Baseline Changes in U.S. Federal Government Technology Programs, *Manufacturing & Service Operations Management* (2021). [DOI: 10.1287/msom.2020.0942](https://doi.org/10.1287/msom.2020.0942)

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