WHITE PAPER

How Modern Technology Transforms Strained Grants Management

Grants management systems are strained by increased funding, emergency relief responses and an influx of applicants. Modern tools are needed to take these systems to scale.

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Introduction

The grants system in the federal government is large and complex. Across over a thousand federal grants programs, hundreds of billions of dollars in grants are awarded to state and local governments each year, bolstering the U.S. economy and public services across programs spanning health care, education, social services, public safety and more. The importance and criticality of the federal grants system require an efficient, streamlined process. This is especially true considering the volume of grant funding increases year over year.

In fiscal year 2020, the federal government awarded $971 billion in grants. That number jumped to $1.369 trillion in FY 2021 & is at $1.068 trillion in FY 2022 as of Sept. 30th.
USASpending.gov

This large amount of funding and the sheer size and variety of the grantee pool pose a few challenges. For one, grantors can face difficulties reaching the right recipients to perform the services intended by the funding. It is also critical agencies properly assess, evaluate and determine grantee eligibility and requirements. Another obstacle considering the growing size and complexity of federal grants programs is actually distributing grant awards to the right recipients at the right time. Today's grants systems were not built to manage current needs at scale, and the success of grants programs relies on timely and efficient disbursement.

Finally, monitoring and providing oversight of grant recipients, both new entrants and seasoned players, to ensure they provide the right services under the grants program, are an additional pain point. Monitoring abilities are a key part of the current grants lifecycle needs to ensure grant funding is actually helping the federal grants program as envisioned.

With all these moving parts and parties at play, the grants management process has grown to be vast and complex. Federal grantors need a modernized, streamlined experience to efficiently provide and track funding to organizations that need it, while measuring success.

Top 5 Grant Program Challenges

1	2	3	4	5
Adapting to Change	**Data for Decision-Making**	**Legacy Technology**	**Customer Experience**	**Limited Visibility to Program Outcomes**
• Legislative Changes • Changes in Policies and Priorities	• Risk Determination • Grant Program Workload • Application Selection	• Cloud Initiatives • Older Tech Licenses	• Not User Experience • Collaboration for Stakeholders	• Data Collection and Aggregation • Measures Definition

This white paper defines the top challenges with current grants management systems, and in some cases, how they can be addressed.

1. Adapting to Change

Changes in legislation, recent events, public emergencies and administrative priorities have impacted grants systems over the past few years or will affect grants systems in the near future. It is vital that grants management systems are able to adapt to change quickly.

LEGISLATIVE CHANGES

The Grant Reporting Efficiency and Agreements Transparency Act (GREAT) of 2020 put into place data standards for grants management. The legislation requires agencies to define performance measures for each program, collect data and report the results and outcomes from grant funding. Implementing the GREAT Act does come with challenges. Grant recipients and agency staff must change definitions, reconfigure the type and amount of data gathered and retool the systems they use to comply with new requirements. Agencies also need to consider current uses of their data and determine whether to add or revise definitions, formats and sources of program data.

Even earlier, the Digital Accountability and Transparency Act of 2014, revamped how agencies reported funding with their grants systems. The legislation requires the federal government to transform its spending information into open data to allow transparency and visibility into federal spending. In practice, however, the way grants systems run today often makes data sharing difficult. For data to be shared, there has to be standardization. We need technology and data systems to establish connections, agree on the data elements to be shared, mechanisms to streamline that data, and tools to facilitate the analysis.

The government's Federal Integrated Business Framework (FIBF) provides a model for standardization of the business process and critical data elements in grants management. REI Systems has aligned our grants products with the FIBF data model. This has allowed easier and faster integration with other grants systems.

CHANGES IN POLICIES AND PRIORITIES

New laws, the establishment of public emergencies related to the COVID-19 pandemic and shifting administration priorities have all led to major increases in federal spending — and yet more complexity for grants management.

Specifically, pandemic-related funding such as the Coronavirus Aid, Relief, and Economic Security Act

(CARES) of 2020 and the American Rescue Plan Act of 2021 made grants work that much more urgent and critical. A significant amount of new federal assistance was released to help address some of the hurdles associated with recovering from the pandemic. That meant agencies had to scramble to set up new programs and help new recipients work through the new grants requirements. The current administration is also prioritizing infrastructure, as seen through the passing of the Infrastructure Investment and Jobs Act of 2021. This $1.2 trillion legislation is full of grants intended to improve the nation's clean water systems, broadband accessibility, highways and bridges, alternative energy and more.

Grants remain critical to advance science through research and development (R&D), too, which also saw an influx in funding last year. The National Science Foundation (NSF) awards about 12,000 grants per year, and requested $9.43 billion in research funding in its FY 2022 budget — that's up from the requested $7.7 billion in FY 2021. The Technology, Innovation and Partnerships (TIP) Directorate at NSF, for instance, is a new entity whose mission is to create breakthrough technologies and meet societal and economic needs through R&D funding. Its budget grew from $500 million in FY 2021 to over $864 million in FY 2022.

The burden on the grants management systems is high. As administrations change, so do agency initiatives, and policy and funding priorities. That is why agencies are turning to flexible, modular systems to deliver programs, communication and technology quickly when situations change

The Health Resources and Services Administration (HRSA) turned to REI-supported grants systems to do just that when it had to quickly act on COVID funding. On the heels of the enactment of the CARES Act, HRSA led the way in getting much-needed funds to front-line health care providers. Using the Electronic Handbooks (EHBs) implemented by REI, HRSA set up a new grants program and issued funding to recipients just 12 days after the act was signed into law.

2. Using Data for Decision-Making

Data is a critical part of the grants management lifecycle, from determining how funds are distributed to monitoring and tracking grants performance. Below are a few steps in the grants lifecycle that especially require the efficient collection and analysis of data — a continued challenge for current systems.

RISK DETERMINATION

Considering the growing volume of funding agencies must distribute, they are left with questions in the early phases of grants management: How do they make the right decisions to distribute critical funding? And to do that, how do they gather the right data for that decision-making? In other words, from the earliest stages of the process, how will they manage the risks associated with the grants management ecosystem, such as improper payments and other forms of waste, fraud and abuse?

increase in money consumers lost to fraud from 2020 to 2021

In FY 2021, the Justice Department reported obtaining more than $5.6 billion in settlements and judgments from civil cases involving fraud and false claims against the government. The Federal Trade Commission data showed everyday consumers lost over $5.8 billion to fraud in 2021, which is an over 70% increase from 2020. Federal grants programs are not immune to these larger trends.

Grant risk assessments must be part of the grants management process, to assess whether a grantee is capable of managing funds. When a robust risk

assessment is done before awarding federal funds, the risk of waste, fraud and abuse is minimized.

HEAVY GRANTS PROGRAM WORKLOADS

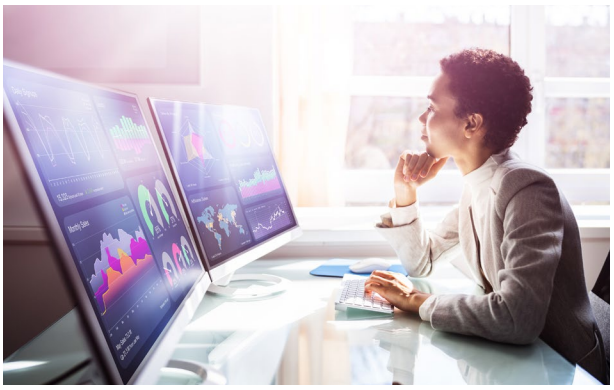
With an influx of grant funding comes an influx of grant applications, and a heavier workload for grants management teams. Once those recipients are funded, grants management teams must also handle the reporting — meaning agencies need staff to review processes and to analyze and understand the complexities of accurately reporting data.

This increasing application, award and post-award processing for grants staff is time-bound and must be performed under tight timelines. There is pressure on agencies to get urgent funding out the door, making decisions rapidly, but with comprehensive data. Funding cycles change depending on the program. All these factors make grants staff workload planning for the near future all the more critical. This requires access to workload and task data for better predictions and assignment of grants tasks.

In addition to robust data about the grants process, REI's grants products provide task and workload data for each stage in the grants process. This allows grants team and team supervisors to access rich dashboards for workload data, thereby providing insights for future assignments and allocations.

APPLICANT SELECTION

In the application stage, grants management teams must also be able to assess data around the applicants. Much of this data is through applicants' SAM.gov profiles, but it can also come through external sources such as social media sites or applicants' own websites. Applicant data, however, is often lacking. The problem is further exacerbated by the explosion of potential applicants. Other sources of data — such as the risk profile of applicants — are kept confidential by the agencies.



Still, agencies need to sort through that data so they can select whom to fund. Data sorting, collecting and analysis are tasks that can be automated and streamlined to reduce the burden on grantors and ensure the right applicants receive funding. In fact, REI has collaborated with NASA on a first-of-its-kind Decision Support Tool (DST) for NASA to improve the efficiency and outcomes of the review and selection process for the agency's Small Business Innovation Research/Small Business Technology Transfer Program (SBIR/STTR).

Developed through a cross-center and interdisciplinary team pulled together to integrate data science, algorithm development, software development, process improvement and policy expertise into the final solution, the tool was built and implemented in only three months. The algorithm and decision support process helped inform the final proposal selections. The time savings also allowed NASA to focus on higher-impact SBIR work such as identifying opportunities to transition SBIR technologies into NASA programs. As a result, the number of NASA Phase III awards to SBIR companies has more than doubled and the gross value of those awards has more than doubled in the year following the DST release.

3. Using Legacy Technology

Most agencies have launched IT modernization efforts and are well into transforming and overhauling old IT systems to improve processes and service delivery. Agencies still using legacy grants management technology will find all the above grant trends difficult to maneuver, simply because the technology cannot scale to the needs of today. Current systems do not allow grants management teams to make quick changes and deploy funds when needed, especially during emergencies.

For this reason, agencies are revamping their grants management systems once they accept they must adapt to change, but they cannot do it alone. REI's grants management system automates the grants lifecycle from solicitation to metrics reporting, and the software helps streamline full grants operations. This way, with automated grant processes and reporting, teams can take action on a moment's notice without having to overhaul legacy systems first.

CLOUD INITIATIVES BY CIOS

Chief Information Officers (CIOs) have been pressured to get off data centers and move to the cloud for years. A movement that started as Cloud First and shifted to Cloud Smart made way for the Federal CIO Council to develop a list of action items to execute the Cloud Smart strategy. Federal programs such as the Federal Risk and Authorization Management Program (FedRAMP) make it easier for agencies to adopt vetted, secure commercial cloud services, and the Federal Information Technology Acquisition Reform Act scorecard tracks and grades CIO data center optimization efforts.

of federal agencies store mission critical data in the cloud

A FedRAMP survey from 2021 found that 45% of federal agencies store mission critical data in the cloud. With the productivity and performance enhancements of the cloud, many agencies are now considering why their grants system still occupies a data center footprint, and if it can move to the cloud.

Cloud solutions ease many current grants management system challenges. REI provides a choice of cloud-based custom modular solutions so agencies can manage business processes the way that fits best within their specific internet technology infrastructure.

LICENSING OLDER TECHNOLOGY

The evolution of technology is also empowering agencies to reconsider replacing old technologies that have high license costs, are not agile and do not scale when needed. CIOs are looking into open-source tools that provide the same value often with much cheaper price tags. The Government Accountability Office reported that after reviewing 16 agencies between 2014 and April 2019, 13 of them reported having saved $291 million in total after moving to cloud services.

While this relates to federal systems government-wide, the same is true for grants management systems. For example, REI began working with NSF in 2020 to pilot REI's peer-review application to replace an older, dated solution. With the successful pilot completion of REI's solution with six of NSF's programs, the agency is now working with REI on the enterprise rollout of the proposal evaluation system and will use the next generation of REI's cloud-based, open-source peer-review solution, GovReview®, as the foundation. GovReview's modular architecture provides NSF with the flexibility to

integrate this capability into its existing grants management systems while improving the effectiveness and efficiency of its peer-review process.

4. Customer Experience as Opposed to User Experience

The executive order on transforming federal customer experience and service delivery calls on agencies to improve these two functions through human-centered design; empirical customer research; an understanding of behavioral science and user testing, especially for digital services; and other mechanisms of engagement. Considering the many thousands of users involved in a single grants program — from recipients to grantors — usability is key to ensuring user satisfaction and program efficiency.

THE CUSTOMER JOURNEY SHOULD CONSIDER THE ENTIRE INTERACTION FOR USERS

For some agencies, better customer engagement means new tools and technologies. However, the push for better user experience in the federal government has expanded to encompass citizens' overall satisfaction with interactions with an agency, product or service. Agencies must think through every moment of recipients' interactions with the system so they design it for the optimum experience.

These are the principles REI used while modernizing its peer-review solution, GovReview. GovReview enhances the panel review process with improved user experience through intuitive dashboards, ease of navigation, making panel data more visible and configurable panel review forms. We conducted multiple focus group sessions to assess the product, provide feedback on the user experience, and influence future design decisions.

COLLABORATION WITH RECIPIENTS, SUB-RECIPIENTS AND AGENCY STAFF

A key component of the customer experience means ensuring applications and reporting are seamless for recipients and sub-recipients. The complexities of the grants management system include providing efficient services to those performing the services in the communities. Collaboration is also critical between agency staff and all stakeholders, not just those applying and receiving funding. This is why human-centered design is so important.

Making those interactions easier to access and manage with a user-friendly interface, with the details of the interaction recorded in the grants system for all involved, is part of grants system modernization. Collaboration within the context of the grants process makes it easier for the recipients to get needed feedback and input from federal staff. It also keeps federal staff up to date with the recipients.

5. Limited Visibility into Program Results and Outcomes

Having limited access and visibility into program outcomes hamstrings efforts to track how funding is used and whether the program is doing what it is intended to do. This is a common blind spot with current grants management systems. This is why data, and the ability to analyze and access data, is key.

DATA COLLECTION AND AGGREGATION

Backers of the GREAT Act say the legislation was needed because federal programs do not have visibility into all the results federal funding is providing. A lack of standardized data and legacy systems not built to scale contributed to glaring gaps in data tracking how grants are spent. To implement the GREAT Act, agencies are told to first list all systems used across the grants lifecycle, including paper processes that remain in digital plans. With the volume of grants data today, that can be a large undertaking.

Then, agencies should identify points of data input and possible duplications to prepare to consolidate grants systems and turn to shared services. Using published grant taxonomy in the FIBF, agencies should update data input sources and their grants systems (while communicating these changes to all stakeholders). This is where modern grants management solutions come in. REI's grants management solutions are built to collect, house and process grant data.

Modern solutions can do the data collecting and aggregation for grantors so they can quickly experience the benefits of data visibility: reduce waste, fraud and abuse; increased ROI; performance metrics; and accountability.

PERFORMANCE MEASURES AND PROGRAM OUTCOME DEFINITIONS

Measuring and tracking performance of grants programs is necessary to ensure funds are used properly. Grants management teams may have defined performance measures or key performance indicators, but may not have them set up because of a dearth of data collection and analysis capabilities. Agencies need to collect data to see whether funding targets are met.

With proper data collection and aggregation across grant recipients, those at the program level can understand whether grant objectives are being met, and if not, how to course correct. Understanding how the grants program is performing requires understanding how each recipient is performing, then combining that data to determine how the entire program is performing. When programs can span from five to 5,000 recipients, depending on the size and scale of a program, tracking this information in an automated, streamlined way is critical but lacking.

REI's grants management solution follows the entire grants lifecycle, from reporting to performance measuring and ROI. REI also developed HRSA's program-specific performance reporting systems, which included program-tailored support for defining program objectives; the collection of detailed, multiform project and grant performance data from grant recipients; and a robust review process of the performance data by HRSA staff.

These systems also provide robust capabilities to aggregate the recipient-provided data and create a rich dashboard of program-level performance measures for monitoring the health of the program. HRSA then publishes the results of the analysis and aggregation on its public website, bolstering accountability and transparency.

Conclusion

Grants systems are complex, and legislative changes and data needs make them even more so. These systems, however, can be broken down into manageable pieces. And once each piece is tackled — data collection, updating legacy technology, implementing performance metrics — the next becomes a bit easier — they all connect, after all. Managing each piece requires an investment in modern technologies. These investments will reap benefits down the road for the grants process and beyond. Cloud migration and overhauling legacy technology is not just a grants issue; it is a technology issue. The need to be prepared and define a strategy around cloud migration benefits agencies with grants management programs and more.

Considering customer experience as opposed to system experience also provides widespread benefits and ensures grants management systems evolve to meet the needs of recipients. Adapting to change is a never-ending process, and customer preferences and expectations will change. Having an agile system that adapts and scales when needed can help grants teams clear many grants management hurdles.

REI has helped major federal grants programs overcome and solve grants challenges for more than 30 years. With our deep domain experience and technical expertise, we can help federal agencies modernize their grants technology to advance grants programs for more successful grant outcomes.

Contact Heather Morgan (hmorgan@reisystems.com) to find out how REI can help solve your agency's grants management system problems today.

Heather Morgan, Program Manager, Grants & SBIR Offering

Ms. Morgan has over 20 years of Small Business Innovation Research (SBIR) and grants management experience at multiple Federal agencies including NASA, DoD, EPA, and DOJ. Ms. Morgan is a 2019 Federal 100 Award recipient in recognition of her leadership of the IT Modernization efforts for NASA's SBIR Program.

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ABOUT REI SYSTEMS

REI Systems provides reliable, effective, and innovative technology solutions that advance federal, state, local, and nonprofit missions. Our technologists and consultants are passionate about solving complex challenges that impact millions of lives. We take a Mindful Modernization® approach in delivering our application modernization, grants management systems, government data analytics, and advisory services. Mindful Modernization is the REI Way of delivering mission impact by aligning our government customers' strategic objectives to measurable outcomes through people, processes, and technology. For more information, visit REIsystems.com.