AGA Research

CFO Survey Report Series

CFO Priorities
for Advanced
Technology
Adoption

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Acknowledgements

2023 CFO Survey Report Series

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Abstract

In discussions with CFOs throughout the public sector, the survey revealed that a combination of four distinct elements — relevant skill sets, effective collaboration, strong data management, and clear governance — form an essential symbiotic relationship for the successful implementation of advanced technologies. When staff possess the knowledge to implement an innovation, they serve as promoters to their colleagues. Collaboration and organizational buy-in augment the sources of data used to fuel advanced technology, while also enabling leaders to efficiently channel progress throughout their organization. Governance and internal controls can guide expertise, collaboration, and data policies with robust processes and procedures for responsible use of the technology. CFOs must emphasize each of the four elements to guarantee that resources spent on technology deliver value.

Introduction

In August 2023, the Office of Management and Budget (OMB) reinforced the federal government's intent to prioritize research and development in *OMB Memorandum 23-20*, which requests that fiscal year (FY) 2025 budgets advance artificial intelligence (AI) to achieve agency missions.[1] At a time when AI and other advanced technologies dominate the news, the request underscores the pressure on public sector professionals not only to integrate emerging tech into their day-to-day work practices, but also to maintain good stewardship of funding. Public sector leaders, long burdened with problems from the slow, disparate, and outdated technologies found in government legacy systems, now have an opportunity to advance technological initiatives while public sentiment is with them.

Guidehouse and AGA surveyed more than 50 CFOs, Deputy CFOs, and other financial management leaders across federal, state, and local governments, using roundtable discussion, direct interviews, and an online questionnaire to determine how they perceive and shape or influence organizational approaches to advanced technologies. In this report, we share findings about the pivotal roles played by relevant skill sets, effective collaboration, strong data management, and clear governance in the successful implementation of advanced technologies and highlight challenges and opportunities for CFOs to drive innovation and sustainable technological improvements.

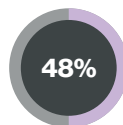Public sector CFOs know the value advanced technologies hold for their organizations. CFOs expect these technologies to have the greatest impact on financial management operations over 5+ years:
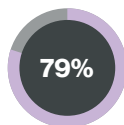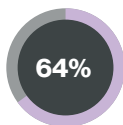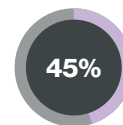
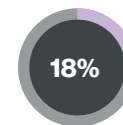| 79%	64%	48%	45%	18%
Data Analytics	Artificial Intelligence / Machine Learning	Automated Workflows	Robotic Process Automation	Distributed Ledger Technology / Blockchain

Skill Sets

An organization's available pool of skill sets fundamentally determines its effectiveness in approaching, implementing, and using advanced technology. It is no surprise that a frequent theme in our discussions with CFOs, regardless of the topic at hand, was the knowledge base of their employees. More than one-third (39%) of questionnaire respondents cited hiring the right staff as a major challenge preventing them from adopting more modern technology. Skill set challenges were compounded when agencies tried to implement emerging technologies that were not well documented. Leaders concurred that having to find and hire the right candidates is especially difficult when the complexities and unknowns of a new technology render creating an accurate job description tough to impossible. CFOs said they want to understand the key factors to look for in candidates and, further, how to structure an interview to assess whether potential employees can deliver.

When deploying new technologies, public sector leaders must drive the shift in the use of staff time from transactional to analytical tasks, and aid employees in developing the required skill sets. Nearly all (91%) of the questionnaire respondents said the primary benefits of adopting new technology were increased productivity and reduced staff focus on routine activities that could be accomplished with automation. Two-thirds (67%) said their forays into automation have decreased processing times in their offices. Therefore, CFOs must prepare their people to take advantage of new capabilities and develop the necessary skills for a more strategic financial management function.
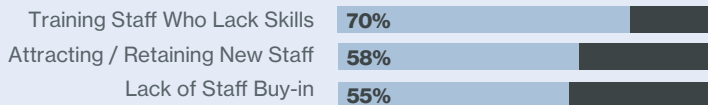
Opportunities and Recommendations

- **Invest in existing staff.** People will always be the foundation of any initiative. CFOs cannot neglect the potential of current staff members to learn the skills needed to apply new technologies. They will be the ones responsible for any initial gains from implementation.

- **Cultivate top skill sets.** Technological expertise is not the only skill set needed to support an implementation. When asked about the top skill sets required to implement advanced technologies, CFOs listed:

  - **Project management** — Managing the life cycle of the project from planning and budgeting through implementation and closeout.

  - **Communication** — Discussing desired objectives, translating technical subject matter for senior executives' full understanding, and clearly conveying the benefits enabling the organization's shared outcomes.

  - **Influence** — Building trust with colleagues to promote adoption and convincing them of the value proposition or "business case" of each technology transformation initiative.

  - **Analytics** — Understanding, interpreting, and communicating the right information quickly.

  - **Risk management** — Understanding and communicating an organization's risk tolerance and the risks posed by the technology, and helping leaders make informed decisions.

SKILL SETS

Upskilling current staff empowers them to effectively leverage advanced technologies.

39% of CFOs cite hiring staff as a major obstacle to technology adoption. **39%**

CFOs' top expected workforce challenges to adopting advanced technologies:

Training Staff Who Lack Skills	70%
Attracting / Retaining New Staff	58%
Lack of Staff Buy-in	55%

Opportunities:
Invest in Existing Staff to Cultivate Skill Sets Beyond Tech:

Project Management · Communication · Influence · Risk Management · Analytics

Collaboration

Even the most skilled employee cannot succeed in a vacuum. Today's CFO understands that a collaborative environment is essential to building the skill sets of any one unit, as well as the overall momentum for any initiative. Collaboration must start at the top, and include chief information officers (CIOs), chief information security officers (CISOs), and chief data officers (CDOs). Many survey respondents emphasized organizational buy-in from the most senior leaders as the first step in any change process. The C-suite must be both excited about the potential benefits of a new technology and willing to fund it. Therefore, the CFO must communicate the potential return on investment of an innovative technology before initiating a transformation, which can be a challenging task.

Collaboration must go beyond obtaining the "green light" for a given project. Instead, CFOs should ensure collaboration is both comprehensive and ongoing to avoid creating a complex technical environment of disparate, overlapping, or patchworked systems — the trap that thwarts organizations over time. Instead, leaders must convince other units in the organization to work together on solutions that are best for the enterprise, not just a specific unit. However, achieving such levels of cooperation is not easy. More than half (55%) of questionnaire respondents cited lack of buy-in as a major obstacle to staff collaboration. Public sector leaders, then, must facilitate the cultural shift from one of avoiding change in favor of comfort with legacy systems to one of embracing the opportunity to do things differently and better.

COLLABORATION

Enterprise-wide collaboration earns buy-in, ensures solutions benefit the entire organization, and communicates best practices to maximize the likelihood of success.

Inter-agency collaboration expands these benefits outside of the organization and across government.

Opportunities:

1. Foster Organization-wide Collaboration

2. Empower Positive Staff Influencers

3. Incentivize Adoption Benchmarks

42%

42% of CFOs use strategic collaboration across departments and agencies to prepare staff for advanced technologies.

Opportunities and Recommendations

- **Foster intra-organizational collaboration.** Any successful advanced technology initiative requires interaction among several units within an organization, as well as effective communication of value to senior leaders. CFOs must approach technology investments with a coordinated, enterprise-wide mindset to maximize value for the organization. They must coordinate with mission support staff, the main beneficiaries of the innovation, as well as employees in acquisition functions, who must understand what the agency needs in order to procure it. Consider establishing a center of excellence to draw in diverse individuals from the enterprise who share an interest in technology. Look closely at what other successful business units have done and try to build on their successes and learn from their lessons while avoiding duplication.

- **Encourage positive sentiment.** Staff can be reluctant to change when processes are well established, whereas others will embrace a new challenge regardless of organizational norms. CFOs can solicit new ideas from high-performing staff members who are open to change to foster leadership support, internal collaboration, and effective advocacy.

- **Incentivize adoption through performance.** Develop helpful ways to encourage staff and senior leaders, including pertinent performance metrics, to support employees in their transition to using and appreciating new investments in advanced technologies.

Data Management

Great collaboration and expertise are worthless if the data cannot deliver. As the adage says, "Garbage in, garbage out." For an advanced technology solution to be valuable, the data used and insights produced must be accurate and applicable. Therefore, the data feeding the solution must be accurate and reliable. Our survey revealed that staff throughout the public sector spend significant amounts of time reconciling information from disparate systems when data fields and definitions vary across platforms. CFOs expressed concern that new technologies and the vast amounts of data associated with them could unintentionally intensify this problem unless a plan is in place to capture and use new information effectively. Further, when considering the demands of a new system, CFOs said it can be challenging to find a proper balance between data transparency and data security. To mitigate these concerns, a strong, well-thought-out data management strategy — one developed through collaboration and reflective of the relevant data needs of the enterprise — is essential.

DATA MANAGEMENT

An effective data management strategy developed collaboratively is a prerequisite to implementing advanced technology.

Insights from advanced technologies must be based on reliable, transparent, and secure data.
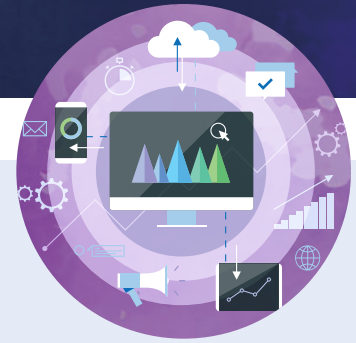
Opportunities:

Invest in System Integration and Data Preparation

Ensure Data Governance in Partnership with CIO, CISO, and CDO

Improve Process Documentation

Opportunities and Recommendations

- **Invest in preparation.** Before kicking off any modernization effort, organizations must integrate their systems and support preparation efforts to maximize existing data and confirm data readiness for use in this capacity.

- **Partner early with the CIO, CISO, and CDO on data governance.** Obtain advance buy-in from the C-suite on the mechanisms needed to maintain data security and mitigate potential roadblocks and delays during implementation.

- **Improve documentation.** Document all processes clearly to record exactly how an output is produced so that staff understand what they are viewing and how it was created. Automated functions (or rules) must also be documented to improve data integrity and maintain data security.

Governance, Risk, and Internal Controls

Effective internal control frameworks are the guardrails that keep an organization's people, processes, and data consistent and safe. When discussing potential risks in implementing a new advanced technology, CFOs cited concerns about audit readiness and declines in staff efficiency. Unclear processes and inadequate documentation and training may negatively impact an organization's auditability and require staff to spend more time determining how information was generated. Effective internal controls can help staff understand why a given activity occurred and more easily trace outputs to their origins. New technologies are most reliable when paired with strong internal control frameworks that can flex when needed to accommodate vast increases in throughput.

Cybersecurity continues to be a key concern throughout the CFO community. For example, most questionnaire respondents (70%) said they expect fraud driven by a security breach to negatively impact their organization over the next five or more years. In line with this sentiment, a recent *Wall Street Journal* article[2] suggests technologies such as generative AI are developing so quickly that organizations are rushing to figure out whether a given technological advancement introduces new cybersecurity challenges or magnifies existing security weaknesses — or both.

In light of the myriad new technologies available and ways they can be implemented, it is important to have a clear, well-designed governance framework that promotes resilience in processes to accommodate major changes. When CFOs set clear system parameters that work with staff, not against them, the technology can maximize the breadth of staff capabilities. In addition, these frameworks can allow an organization to increase its risk appetite and take on major innovations with confidence so that its people and processes are ready to handle them.

Opportunities and Recommendations

- **Revamp governance structures.** Clear, well-designed governance frameworks guarantee a given technology operates efficiently in all scenarios. These frameworks, in turn, ensure issues are isolated and resolved quickly. Involving a range of stakeholders can improve the scope of such frameworks. One organization, for example, maintains a designated group to brainstorm scenarios to improve its control frameworks.

- **Set risk tolerances.** Organizations must set risk tolerance levels and devote necessary resources to achieve relevant goals. CFOs should avoid automating a process that causes staff to spend more time validating potentially questionable outputs than they would have by completing the process manually.

- **Foster a risk-aware culture.** Educate staff on the importance of following internal controls, elevating risks, and supporting the organization's mission while remaining risk conscious.

GOVERNANCE, RISK, AND INTERNAL CONTROLS

A strong governance, risk, and control framework enables organizations to keep pace with rapid changes.

Starting with a foundation of comprehensive frameworks maximizes the speed of an implementation.

Opportunities:

Revamp Governance Structures → Set Risk Tolerances → Foster a Risk-aware Culture

Case Study One

Problem Statement

The use and implementation of advanced technology across the agency's finance and management office was inconsistent and lacked central governance and support. The agency sought to enhance the use of technology to generate process improvements and increase automation by building up in-house skills and encouraging collaboration.

Solution

- **Skill sets:** The agency's finance and management office held training events, such as "Lunch & Learn" sessions and a "What Is AI?" series, to educate staff on the uses of advanced technologies, and offered instructional sessions to support citizen developers.

- **Collaboration:** By organizing events involving both internal and external stakeholders, the finance and management office aimed to promote collaboration and secure support for its enterprise information management (EIM) program, as well as the use of advanced technologies, such as robotic process automation (RPA). For example, the office hosted data challenges, RPA bot challenges, and a joint EIM x RPA showcase to encourage adoption and demonstrate real use cases. The bot challenges drew more than 160 participants from across the agency's lines of business, while the EIM x RPA showcase, a joint initiative in partnership with the Chief Data Office and the Solution Delivery Team, attracted more than 300 participants, who then augmented technology-specific distribution lists.

- **Data management:** EIM is the agencywide initiative dedicated to managing data and information to improve efficiency, reduce costs, promote transparency, and enable business insights. EIM creates an ecosystem of practices, technologies, and communities of people that help the agency manage its data as an asset for better business outcomes. This ecosystem works organically to address enterprise data issues and improve the agency's access to quality data.

- **Governance, risk, and internal controls:** The finance and management office's IT organization led the way in establishing a governance framework to encourage the use of advanced technologies, such as RPA and low-code tools. The framework structured the process for implementation and included guidance to help employees from initial technology use through the application of solutions.

Benefits

The finance and management office significantly increased awareness of available advanced technologies at the agency, provided training for a growing population of citizen developers, and expanded the use of these valuable technologies in the organization.

Case Study Two

Problem Statement

An agency sought to transform its traditional internal control program into a more advanced data analytics program. It aimed to provide better support for its mission by dealing with the proliferation of data, using innovative technologies to manage and reduce the cost of compliance efforts, and building a stronger, more data-driven organization. Specifically, the agency was looking for a new analytical approach to finding, reviewing, and addressing undelivered orders for cases in which no additional action would take place so that funding could be freed up for new initiatives.

Solution

- **Skill sets:** The agency developed an interactive tool with a user-friendly dashboard supported by standard agency dashboard training pathways. Key FAQs and use cases were documented and presented to users when the tool was released to encourage support for its adoption.

- **Collaboration:** While the tool was created within the financial management office, the target users of the tool worked throughout the agency's program offices. The team held sessions with stakeholders to fine-tune the tool's usage, and the tool was folded into the release of a suite of tools for monitoring the financial health of awards.

- **Data management:** The new tool has helped agency leaders take a fresh look at the ways teams monitor and address open obligations to reduce the risk of waste associated with unused or expiring funds. The R-based analytical tool helps identify invalid open obligations with a dashboard, updated daily by RPA, and highlights open awards with the greatest likelihood of causing invalid open obligations. These insights improve analysis and decision-making related to open obligations across the agency.

- **Governance, risk, and internal controls:** The tool is part of an internal control framework that verifies the validity of all open obligations. The agency team works to provide solutions that limit the compliance burden and support a strong internal control environment through better use of data throughout the internal control program.

Benefits

This new tool represents significant improvement in the agency's approaches to identifying open obligations. It can now isolate specific awards with parameters derived from statistical analysis, rather than flag awards according to potentially arbitrary timelines. The model accounts for key differences in types of awards, origination, and funding, making the tool more effective at highlighting true outliers that require review.

What's Next?

Carefully integrating the four elements of relevant skill sets, effective collaboration, strong data management, and clear governance is essential when considering a new technology implementation — each is nonnegotiable when seeking a successful outcome. While fully integrating each of these elements may seem to add time to implementation, the resulting benefits actually enable organizations to keep pace with the rapid pace of change, as one roundtable participant noted. By focusing on skill sets, collaboration, data, and governance from the outset, CFOs can reduce the duplication and rework that commonly plagues failed initiatives and, instead, maximize the speed of the implementation. When CFOs serve as the conductors of these elements, they can facilitate the harmony required to incorporate new and complex technologies into any workflow.

Endnotes

1. U.S. Office of Management and Budget, *OMB Memorandum 23-20*, Aug. 17, 2023, https://www.whitehouse.gov/wp-content/uploads/2023/08/M-23-20.pdf

2. Belle Lin, "AI Is Generating Security Risks Faster Than Companies Can Keep Up," *The Wall Street Journal*, Aug. 10, 2023, https://www.wsj.com/articles/ai-is-generating-security-risks-faster-than-companies-can-keep-up-a2bdedd4?mod=Searchresults_pos17&page=2