COMMERCIAL SOLUTIONS OPENING:

AN INNOVATIVE, COMPETITIVE PROCESS TO SOLVE SLOW GOVERNMENT PROCUREMENT

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The primary purpose of this research is to identify the strengths, weaknesses, and best practices of the Commercial Solutions Opening (CSO) as a solicitation technique leading to a contract award. With their findings, the research team intends to provide DoD Components, Defense Agencies, 4th Estate organizations, and their associated workforces with a consolidated report analyzing available data on the CSO solicitation technique and making recommendations based on the use of CSOs. Working with these DoD-affiliated organizations, the researchers captured extensive direct feedback from CSO Cross Talk meetings among DoD points of contact who previously conducted CSOs or are working to develop CSO policies/procedures at their individual organizations. The DoD and other agencies outside of the department will also be able to use this research to capitalize on the utility of CSOs in requesting their own permanent authority. Further, the research provides an analysis to shape informed decision-making for future solicitation strategies as future requirements owners and contracting offices develop their plans to meet agency needs. Finally, this research can be used as a catalyst to refine CSO reporting requirements, bolstering the data value stream for the department's executive decision-makers.

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The DoD works tirelessly to achieve rapid acquisition objectives and narrow the strategic and defense capabilities gap between the United States and near-peer adversaries. A quick review of past newspaper headlines reveals the significant disparity in capability between DoD's industrial base and those of U.S. adversaries. For example, China's defense industrial base seems to have a much faster and more streamlined path for developing and fielding new weapons (Tirpak, 2023). Additionally, many of the most sought-after contractors in the DoD are not interested in pursuing DoD contracts, but instead are "finding much more lucrative and favorable markets in places like China and Russia" (National Contract Management Association [NCMA], 2019, p. 5). Thus, the DoD recognizes the need to shorten the time from proposal to contract award and make the process "faster, more agile and responsive to the pace of change" (NCMA, 2019). Recent notable examples of this acquisition reform include the Middle Tier of Acquisition (MTA) Pathway for Rapid Prototyping and Rapid Fielding authorized by Section 804 of the National Defense Authorization Act (NDAA) for Fiscal Year 2016 (NDAA, 2015), awareness of Other Transaction (OT) Authority, and the adoption of industry standards in acquisition. Even with these reforms, the DoD acquisition process remains slow, expensive, and bureaucratic.

In 2021, and in furtherance of rapid acquisition objectives, the U.S. Congress codified Public Law 117-81, the NDAA for FY 2022 (NDAA, 2021). Section 803 of the Act provides permanent authority for a new type of rapid acquisition, the Commercial Solutions Opening (CSO). The CSO is a solicitation technique that is designed as an innovative means to solve the problem of slow government procurement. At its core, the CSO seeks to take a broadly identified objective, stated in a manner that allows for diverse solutions, and award a contract to meet those objectives within a matter of weeks, as opposed to the methods that now take months or even years using traditional models.

A CSO can result in both Federal Acquisition Regulation (FAR)-based and non-FAR-based contracts and is used to acquire an innovative technology or an innovative means or method to accomplish the objective. As an example of a CSO, Joint Base McGuire-Dix-Lakenhurst (MDL) accepted an innovation challenge from former Secretary of the Air Force Heather Wilson and Air Force Chief of Staff GEN David L. Goldfein to "Think Big, Start Small, and Scale Fast" with its first-ever Joint Base MDL Pitch Day event. At this event, 10 small businesses pitched their

innovative technology to Joint Base MDL leaders, and five of them walked away with a one-page contract in hand and an initial payment in the bank (Golden, 2019).

The primary purpose of this research is to identify the strengths, weaknesses, and best practices of the CSO as a solicitation technique leading to a contract award. Our work is a combination of intellectual and practical action research. Its purpose is to provide DoD organizations and their workforces with a consolidated report analyzing available data on the CSO solicitation technique and making recommendations based on the use of CSOs. This article is based on the graduate thesis by co-authors Eric W. Washburn and Mary Beth Colavito (Washburn & Colavito, 2023).

Assessment of different individuals' varied interpretation and implementation of the flexible process to meet their specific program and agency goals will inform the categorization of strengths, weaknesses, and best practices.

We use an action research design, based on a qualitative approach, using an observation data collection method with document analysis of the CSO Cross Talks (George, 2024). Our research methodology will consist of extensive direct feedback captured from CSO Cross Talk meetings among Defense Agency points of contact who have previously conducted CSOs or are working to develop CSO policies/procedures at their individual agencies. These feedback meetings are led by the Deputy Assistant Secretary of the Air Force for Acquisition (Contracting; SAF/AQC). This information will be reviewed for strengths and weaknesses regarding training and information sharing, internal agency processes, solicitation definition, and industry interaction. Assessment of different individuals' varied interpretation and implementation of the flexible process to meet their specific program and agency goals will inform the categorization of strengths, weaknesses, and best practices. Similar direct user feedback will be discussed as compiled for and documented in other published briefings and reports. Our final results will be presented in the form of recommendations that DoD and its contracting offices can best leverage to implement CSOs.

Literature Review

Innovation Theory

The previous section established that CSOs present an opportunity for the DoD to make critical investments in technology and capability by leveraging the technological capabilities of the department's industrial base. In fact, the adoption of CSOs as a permanent authority is, in itself, innovative. To understand how these innovative capabilities can shape the DoD, it is important to understand the theory supporting innovation in business. First, we considered the DoD as a type of knowledge management (KM) firm with "roles and processes to support decision-making" (Joint Chiefs of Staff, 2018, p. 1). The DoD as a KM firm is comprised of individuals with tacit, explicit, and implicit knowledge of the military's operations, from munitions flight trajectories to the ideal length of a blade of grass along a flightline. Within this construct, the DoD is operating as a firm competing with other nations; this defines the marketplace within which innovation leads to competitive advantage and provides a framework against which innovation theory can be applied.

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Considering the DoD as a type of KM firm, the research team applied an assertion by Johannessen et al. (1999) that the "unending stream of knowledge keeping markets in perpetual motion, calls for companies to execute continuous improvements and continuous innovation, while simultaneously limiting imitation" (p. 122). Further, Johannessen et al. (1999) assert that "certain firms have more information than others, and turning this into knowledge gives them an advantage in ascertaining market inefficiencies, putting them in a better position to innovate" (p. 123).

To truly capitalize on the benefits of CSOs, the DoD must consider itself as operating in a KM environment. KM is a key enabler in identifying problems and solutions and paving the way for innovation to occur. Conceptualizing and managing change through exploiting the learning

capacity of knowledge workers is considered a competitive advantage according to Nonaka (2007). Individuals hold the ideas and knowledge necessary for the creation of new products and services as well as the ability to add value to old ideas and concepts (Seagal & Horne, 1997). Innovation theory states that a manager's role in the knowledge-based industry is to "manage the environment or context in which work is done" (Johannessen et al., 1999, p. 132).

For the DoD, this management comes from the program manager (for defense acquisition programs) and the functional services manager (for service acquisitions), with assistance from members of the acquisition team. The team leverages their expertise to achieve positive results in productivity, fostering innovation, and bolstering military capability while leading a team of government and contractor innovators. The winning manager provides "their people with the best weapons with which to compete, i.e., knowledge and service" (Johannessen et al., 1999, p. 132). The findings of this research will enable knowledge managers in the DoD to integrate the results into their own KM stream, fully capitalizing on the ability to achieve innovative solutions through the CSO process.

Commercial Solutions Opening Legislative History, Policy, and Procedures

With a basis of innovation theory and before delving into the FAR processes and other acquisition flexibilities that broadly led to the creation of the CSO, it is important to define its immediate history, policy, and procedures. On June 26, 2018, Class Deviation 2018-O0016, Defense Commercial Solutions Opening Pilot Program, was published allowing contracting officers to "acquire innovative commercial items, technologies, or services using a competitive procedure called a CSO" under the authority of Section 879 of the NDAA for FY 2017 (Assad, 2018). This authority was set to expire on September 30, 2022; however, less than 4 years later, on February 4, 2022, Class Deviation 2022-O0007, Defense Commercial Solutions Opening, rescinded and superseded the previous class deviation to give the CSO permanent authority by Section 803 of the NDAA FY 2022 (Tenaglia, 2022). Minimal procedures are required when a contracting officer chooses to utilize a CSO under this class deviation. However, key operational aspects germane to this research are provided in Figure 1.

FIGURE 1. CSO DEVIATION KEY ASPECTS	

Restrictions for use	• Treat items, technologies, and services as commercial
	• May use only —
	  ◦ To obtain solutions or potential capabilities that
	  - fulfill requirements
	  - close capability gaps, or
	  - provide potential technological advancements that are new as of the date of submission of a proposal or that are a new application as of the date of submission of a proposal of a technology, process, or method existing as of such date;
	  ◦ When meaningful proposals with varying technical or scientific approaches can be reasonably anticipated; and
	  ◦ When the contract entered into under the program will be fixed-price, including fixed-price incentive contracts.

Competition	• May competitively select proposals received in response to a general solicitation, similar to a broad agency announcement. • CSO is considered to be a competitive procedure.

Evaluation for Award	• Primary evaluation factors shall be
	  ◦ technical,
	  ◦ importance to agency programs,
	  ◦ funds availability.
	• Price considered to the extent appropriate to determine fair and reasonable.
	• Written evaluation reports on individual proposals are required.
	• Proposals not evaluated against each other.

Note. Adapted from "Class Deviation—Defense Commercial Solutions Opening" [Memorandum], by J. M. Tenaglia, 2022, Office of the Under Secretary of Defense for, Acquisition and Sustainment. https://www.acq.osd.mil/dpap/policy/policyvault/USA000138-22-DPC.pdf

In January 2024, the Defense Federal Acquisition Regulation Supplement (DFARS) was revised to include subpart 212.70, Defense Commercial Solutions Opening. This statute implements 10 U.S.C. § 3458 for the acquisition of innovative commercial products or commercial services through the use of a general solicitation known as a CSO (DFARS, 2024).

Beyond the relatively minimal guidance/instruction, the mechanics of utilizing a CSO are left up to the interpretation of the various DoD organizations and individual contracting officers. As such, organizations varied in their implementation of guidance and additional policies for CSOs.

Identification of Strengths, Weaknesses, and Best Practices

With strengths, weaknesses, and best practices at the core of this research and its primary questions, it is important to define those terms.

A *strength* indicates an aspect of the CSO solicitation technique that has benefited the government, industry, or both. Examples could include an easier process to contract award than FAR-based procedures, reduced risk of protest, contracts for more innovative solutions than the government could have defined in a requirements statement, and so on.

A *weakness* would indicate an aspect of the CSO that has hindered the government, industry, or both. Examples could include a more confusing process than FAR-based procedures, difficulty in securing a fair and reasonable price for the government, or uncertainty about how to award a follow-on contract to an initially innovative solution contract, etc. An observation may have attributes that result in both a strength and weakness.

A *best practice* is defined by Merriam-Webster (n.d.) as "a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption." Examples could include publishing an agency-specific CSO guidebook, using a gated/phased approach for CSO proposal submissions, or advertising CSOs through unconventional means.

Not all observations may qualify as a strength, weakness, or best practice but still enhance or contribute to this research or areas for future research; those observations will be captured as "other observations" in the Findings section of this article.

Research Methodology

The DoD started holding CSO Cross Talk meetings quarterly in April 2022 as a forum for the contracting workforce to share "CSO policy changes, training, and success stories/best practices" (DoD, 2022). DoD agency points of contact who have previously conducted CSOs share a varied interpretation and implementation of the flexible solicitation technique to meet their specific program and agency goals. This is in an effort to benefit all those working to develop CSO policies/procedures at their individual agencies, whether they used them yet or not. Participants are encouraged to ask questions and suggest hot topics surrounding CSOs. SAF/AQC representatives organize and facilitate the meetings, and afterward they draft CSO Cross Talk Bulletins to summarize the meetings. These bulletins are disseminated with guidance for meeting attendees to share them among the acquisition workforce of each respective Defense Agency.

For this research, we reviewed and analyzed the contents of these bulletins, which were primarily based on the feedback provided by Defense Agency points of contact who previously conducted CSOs, particularly regarding CSO strengths, weaknesses, and best practices.

While a policy analyst or contracting officer may read these bulletins and simply capture mental notes for potential future use, our research will systematically break down all feedback data and categorize it by topic area. This research breakdown will readily lend itself to developing more strategic recommendations about actions that can be taken regarding CSOs. The four overarching categories are the following:

1. **Training and Information Sharing**—how the workforce is educated on this solicitation technique.
2. **Internal Agency Processes**—how individual DoD agencies structure their facilitation of evaluating and awarding CSOs.
3. **Solicitation Definition**—how various contracting officers draft individual CSOs.
4. **Industry Interaction**—how the government advertises to and receives information from potential offerors.

These four categories are purposely broad to accommodate separation and subsequent categorization of a diverse range of feedback (the DoD agency points of contact were not required to structure their Cross Talk presentations in any particular way). We separated the feedback into these categories and then identified strengths, weaknesses, and best practices. Also, commonalities and focus areas for recommendations can be consolidated.

Findings

It may appear easy for one to predict potential strengths, weaknesses, and best practices of any new technique based on its developer's intention or motivation, but having the firsthand experience to back up those findings and open oneself up to questions about them is another matter entirely. The CSO Cross Talks served as a forum for airing those findings starting in April 2022. As discussed in the Research Methodology section, we consolidated the feedback that follows from various agency representatives and then categorized it into broad categories to highlight possible focus areas on which to capitalize for recommendations. As previously discussed, we reviewed the CSO Cross Talks and developed categories under which to align our findings. The four categories, developed specifically for this research, follow.

- **Training and Information Sharing.** This category covers observations related to how the workforce is educated on the CSO solicitation technique. The findings under this category are provided in Table 1.
- **Internal Agency Processes.** The research team defined this category as how individual DoD agencies facilitate their evaluation and award of contracts because of the CSO solicitation technique. The findings under this category are provided in Table 2.
- **Solicitation Definition.** This category lists findings about how various contracting officers draft individual CSO solicitations. The findings under this category are provided in Table 3.
- **Industry Interaction.** The last category captures how the government advertises to and receives information from potential offerors under CSO solicitations. The findings under this category are provided in Table 4.

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Through this analysis, we captured the strengths, weaknesses, and best practices in Tables 1, 2, 3, and 4 using the identifiers "S", "W", and "BP", respectively. The individual observations are not listed in priority order. Moreover, some findings indicate "BP" (followed by "S" or "W" in parentheses) to note that this is a best practice based on, or that resulted in, an observed strength or weakness.

TABLE 1. CSO CROSS TALKS—TRAINING AND INFORMATION SHARING	
Category	**Findings**
BP (S)	Contracting organizations should create a training team to do a deep dive into tactical processes for each CSO spiral, identify best practices, and target areas that have historically performed inconsistently (resulted in 3-month award time savings, helped mitigate protests, and expedited purchases).
BP (W)	PCOs should understand that there are different challenges than a typical acquisition because solutions can vary widely (e.g., type of money needed, bona fide need, base spectrum approvals, Authorization to Operate requirement).
BP	DoD should stand up an Outreach Team to equip acquisition professionals with training, best practices, success stories, resources, and DoD-level and industry collaboration opportunities.
BP	DoD and contracting organizations should train on CSO policy/procedures to show how they differ from FAR-based acquisitions (e.g., know what processes/documents affect each contract from CSO level vs. individual contract level).
BP	DoD and contracting organizations should be educated on what authorities, regulations, and policies are available and how to differentiate among them.

Note. Adapted from DoD OT Quarterly Commercial Solutions Opening Cross Talk [Bulletin], Department of Defense (2022); PCOs = Procuring Contracting Officers; CSO = Commercial Solutions Opening.

TABLE 2. CSO CROSS TALKS—INTERNAL AGENCY PROCESSES	
Category	**Findings**
S	Contracting organizations' PCOs obligated awards competitively, within 60 days, and with substantial negotiated savings.
BP (S)	Contracting organizations should assign a PCO to chair the execution team (a significant amount of confusion and rework reduced by establishing a PCO at the head of the evaluation and execution teams).
W	PCOs did not observe awards from CSOs as a short process or end-of-year effort due to multiple workshops, time to develop problem statements, and acquisition process taking numerous months.
W	Contracting organization observed a lack of accurate CSO data reporting for DoD as a whole.
BP (W)	Contracting organization required a large team to evaluate over 500 submissions for different organizations in a reasonable amount of time.
BP (W)	PCOs should ensure funding is ready to obligate from their program offices in order to quickly move to reduce or scale the requirement based on the available funding and then promptly award the contract (waited on funding for eight months in one instance).
BP	Contracting organizations and PCOs should establish a cloud-based document repository. The fast pace of the CSO process required an organized central repository for emails, documents, and spreadsheets that could be accessed by many and restricted as necessary. PCOs should decide how they will share documents with those that are not able to access the cloud-based document repository (e.g., contracted technical evaluators).
BP	PCOs should make sure all processes, procedures, and contractor responses under the CSO are uniform (also applies to Solicitation Definition section).
BP	PCOs should ensure acquisition/evaluation teams are filing electronic documents in a standardized manner.

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TABLE 2. CSO CROSS TALKS—INTERNAL AGENCY PROCESSES (CONTINUED)	
Category	**Findings**
BP	PCOs should rely on program managers and technical specialists to frame Statements of Work and Contract Line Item Number (CLIN) structures.
BP	PCOs should work with Defense Contract Management Agency at the onset if they will be assisting with pre-award surveys or post-award administration.
BP	PCOs should work closely with legal support to avoid issues with a wide range of solutions.
BP	PCOs should create/maintain relevant documentation.
BP	PCOs should ensure subject matter experts (SMEs) perform robust technical evaluations.
BP	PCOs should negotiate price and terms and conditions bilaterally (after proposals are solicited competitively), in line with industry's normal practices.
BP	Contracting organizations should plan appropriately to facilitate shorter procurement acquisition lead times (e.g., hiring/assigning additional personnel and deprioritizing the team's other workload to award high-dollar requirements in a compressed timeline).
BP	Contracting organizations and PCOs should establish a central document repository for oversight and surveillance documents.
BP	Contracting organizations should establish a unified contracting division for CSO solicitations and awards.
BP	Contracting organizations and PCOs should integrate acquisition professionals and SMEs in acquisition planning and development.
BP	PCOs should establish relationships among stakeholders.
BP	PCOs should ensure consistent socialization and communication of timeline, plans, and processes.

Note. Adapted from DoD OT Quarterly Commercial Solutions Opening Cross Talk [Bulletin], Department of Defense (2022, 2023); PCOs = Procuring Contracting Officers; CSO = Commercial Solutions Opening.

TABLE 3. CSO CROSS TALKS—SOLICITATION DEFINITION	
Category	**Findings**
S	Contracting organizations observed that every agency/subunit/etc., has its own unique requirements; even if another part of DoD has contracted for a certain product/service, it could be considered "new/innovative" to your specific part of DoD and warrant an award from a CSO.
BP (S)	PCOs should draft CSOs with a phased approach (e.g., abstracts and oral presentations) to reduce the workload for both government and contractor.
BP	PCOs should provide enough background/contextual information for the problem statement or Area of Interest (AOI) in the CSO in order for offerors to construct a successful proposal.
BP	PCOs should standardize evaluation criteria across the AOI (each solution will still differ but can be assessed based on its unique ability to respond to the government requirement).
BP	PCOs should adjust scope and specificity of CSO language based on individual circumstances.

Note. Adapted from DoD OT Quarterly Commercial Solutions Opening Cross Talk [Bulletin], Department of Defense (2022, 2023); PCOs = Procuring Contracting Officers; CSO = Commercial Solutions Opening.

TABLE 4. CSO CROSS TALKS—INDUSTRY INTERACTION	
Category	**Findings**
BP (S)	Contracting organizations and PCOs should consider use of AFWERX Google Suite as a secure one-stop shop for correspondence, documentation, and meetings with vendors (proved to be an effective tool resulting in 6-month award time savings).
BP	PCOs should allow industry to have access to and communication with end users in a controlled way.
BP	PCOs should survey industry for inputs into the CSO process.
BP	Contracting organizations and PCOs should use social media and a wide variety of online options to reach potential offerors (some market segments, like cyber, will actively avoid resources that are too associated with the government).
BP	PCOs should encourage program managers to reach out through their contacts and colleagues for potential offerors.
BP	Contracting organizations and PCOs should learn about the market segments they are trying to attract and how they typically find opportunities.

Note. Adapted from DoD OT Quarterly Commercial Solutions Opening Cross Talk [Bulletin], Department of Defense (2022).

Implications of Findings

Most of the listed CSO Cross Talk comments were categorized as best practices since the agency representatives primarily framed their feedback as subjective recommendations to other agencies. Objective strengths and weaknesses may have been few in number as a result of the noted lack of accurate CSO data reporting in Table 2. It is possible to infer that some of the best practices could be due to a strength being the flexibility of the CSO solicitation technique. Alternatively, a weakness denoting ambiguity or confusion could also be inferred when considering the extensive best practices, the majority of which were categorized under Internal Agency Processes. These practices were subsequently recommended to ensure efficiency and successful contracts that, otherwise, may not be achieved.

The most comments, categorized under Internal Agency Processes, are also notable in the types of recommendations for which the acquisition community expressed a need. We anticipate that these recommendations will be well-received and utilized. Finally, note that a few of the observations are duplicative, but they were all retained to highlight how multiple agencies made similar comments that could influence prioritization of recommendations at the end of this article. Expanding beyond just the limited number of strengths and weaknesses identified in

the CSO Cross Talks feedback, the other findings discussed in this article capture that, at this point and overall, CSOs have many more strengths than weaknesses.

In total, we made 66 individual observations of strengths, weaknesses, and best practices. Within those observations, the research team identified 27 strengths, seven weaknesses, and 43 best practices in the documented findings of the CSO data. Although the total adds up to 77, some of these observations were assigned to multiple categories or were defined as both a best practice and a strength or a weakness; therefore, the total observations of 66 account for responses, while the 77 observations account for the researchers' total categorization. These findings were also categorized across 10 categories according to their central theme(s), with some findings falling into multiple categories. The total quantities of strengths and weaknesses by category are provided in Table 5. The protest findings, especially, are a very telling representation of the significant advantage that CSOs may have over FAR-based solicitation techniques in that so few protests have been filed, and none have been sustained that were filed on the basis of the CSO process itself. Additionally, the process flexibility and limited scope of litigation that come from judicial deference are strengths that merit prudent planning and potential opportunities that contracting activities can embrace in their own solicitation planning process.

TABLE 5. QUANTITY OF STRENGTHS AND WEAKNESSES BY CATEGORY

Category	Strengths	Weaknesses
Training and Information Sharing	1	1
Internal Agency Processes	2	4
Solicitation Definition	2	0
Industry Interaction	1	0
Expanded Solution Horizons	4	0
Industry Participation and Competition	3	0
Cost/Price/Budgeting	1	1
Schedule and Planning	1	1
Process Flexibility	7	0
Scope of Litigation	5	0

Given the research we conducted, it is believed that the CSO process should be embraced by agencies seeking to expand their technological horizons and capabilities. The strengths identified by the researchers greatly outweigh the weaknesses. Using the best practices and observations the researchers noted, agencies can equip themselves with

the best means and processes to execute successful CSO solicitations. From the data, the researchers found that the CSO solicitation technique also has applications beyond the research and development arenas. The CSO technique can also be used to identify innovative means to accomplish operations, sustainment, and even maintenance tasks, potentially providing total life-cycle cost savings to the government as a result.

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As discussed throughout this research, we also note that the CSO process and procedures are relatively immature and rapidly evolving as compared to other solicitation methodologies. To ensure the continued success of the CSO as a solicitation technique to drive innovation, the researchers provide the targeted recommendations that follow in the areas of training and development, policy changes, and tracking and reporting.

Recommendations

This section presents focused recommendations based on the results of the analysis found in this research. In total, we provide eight recommendations, each with their anticipated benefits and methods by which they can be successfully implemented. The recommendations encompass three categories: training and development, policy changes, and tracking and reporting.

Federal Procurement Data System Modification

The first recommendation involves both a policy and reporting change. We perceive this recommendation to be the simplest to implement. We propose a two-part modification to the Federal Procurement Data System (FPDS) contract action report. The first modification is to include Solicitation Type and Procurement Method as reporting criteria. These fields would differentiate between the

procurement method and solicitation type used to award the contract being reported and should include drop-down selections for procurement method and solicitation type. For example, the FPDS contract action report would include a drop-down selection for CSO field as well as selections for other solicitation types such as request for proposal, request for quote, Broad Agency Announcement, invitation for bid, and others.

With the addition of the Solicitation Type reporting criterion, the government and future researchers will be able to analyze specifics about solicitation methodologies and the contract awards that follow in a manner similar to the analysis we conducted in this research. The inclusion of the Solicitation Type reporting criterion will also allow for the analysis of other areas that extend beyond the scope of our research, such as industry involvement across differing solicitation types, cost/price history and modification metrics, small business participation across solicitation techniques, and targeted areas to bolster training in solicitation types. Absent a dedicated field to report solicitation type, we recommend the action description field be modified to enable reporting of the solicitation type, which would still present opportunities for future reporting, analysis, and informed decision making.

The second modification we recommend to the FPDS contract action report is the inclusion of Initial Proposal Receipt Date as a reporting criterion. This new field should be a date field, which reports the date the initial proposal was received for all new awards being reported into the FPDS. The FPDS contract action report currently includes a field to report the solicitation date; however, this is not necessarily a useful data point for general solicitations, which can be open for long periods of time and which can invite multiple proposals during its open period(s). Absent this modification to the FPDS, there is no discernible means to distinguish the procurement lead times between a contract action where the proposal was received one day after the CSO was issued, and a contract action where the proposal was received one year after the CSO was issued. The addition of proposal receipt reporting will enable future analysis of procurement lead time for both contracts awarded from CSO solicitations and those awarded by other means.

Expand Contract Type Options

The next policy change recommendation involves a more material revision to the CSO authority by expanding the available contract types for awards, including time-and-materials or labor-hour. Since CSOs are soliciting innovative solutions, it is reasonable to assume that offerors may not always be able to precisely estimate the work required to achieve their potentially groundbreaking goal. Although time-and-materials contracts are used when it is not possible to estimate accurately the extent or duration of the work or to anticipate costs with any reasonable degree of confidence, it should be noted that these contracts are considered high risk since they do not provide any incentive to the contractor for cost control or labor efficiency.

Although time-and-materials contracts are used when it is not possible to estimate accurately the extent or duration of the work or to anticipate costs with any reasonable degree of confidence, it should be noted that these contracts are considered high risk since they do not provide any incentive to the contractor for cost control or labor efficiency.

It would be doing a disservice to the government to lose the possibility of awarding a contract for that product, technology, or service because the offeror did not want to submit a fixed-price proposal and risk their profit potential should it take more effort or resources to complete the contract objectives than the offeror had first proposed. This recommendation could be considered by a DFARS proposed rule or class deviation to expand the language of DFARS 212.70 to include provisions of expanded contract types in awards from CSOs.

Formal Training Through Defense Acquisition University

For the first training and development recommendation, we recommend DAU develop and offer a standalone training course on CSOs. It should begin with comparing the differences from FAR-based solicitation techniques and identifying the processes and/or documentation that it bypasses for the special purpose of streamlining contract awards for innovative solutions. The actions described here are

similar to how the team has conducted its research. The course can also provide students with solicitation and evaluation templates and plain language documentation to use as a resource. As highlighted often in the CSO Cross Talks, while CSO flexibility is appreciated, great value is to be found in standardization and uniformity for repeatable processes. As a future evolution of this training and development recommendation, DAU, or some other activity, could develop a comparative tool. It should include decision logic to guide future procurement teams through a methodical decision process of choosing the most advantageous solicitation technique for their requirement(s), whether that be a CSO or some other solicitation technique.

Invest in Commercial Solutions Opening Center of Excellence

We recommend the United States Air Force (USAF) fully invest in the CSO Center of Excellence and take the DoD lead in consolidating CSO DoD guidance documents, best practices, and procedures in furtherance of the DoD's KM environment. These resources could be documented and catalogued through a virtual site with appropriate access controls, perhaps as a resource open to all DoD common access card holders under the USAF Innovation Toolbox (USAF, n.d.). A similar website after which the CSO Center of Excellence might model itself could be the "Acquisition Innovation" site created and maintained by the Defense Advanced Research Projects Agency, which features history, training, work samples, and other resources for the acquisition of innovative technology using the award of OTs (Defense Advanced Research Projects Agency, n.d.).

As the CSO Center of Excellence, the USAF should maintain flexibility in remaining current with best practices regularly being discovered and shared as more CSOs are being utilized. The CSO Center of Excellence should also explore opportunities to develop meaningful data analytics and metrics to measure CSO utilization and effectiveness as resulting contracts are performed. Also, the CSO Cross Talks, to which policy advisors and experienced practitioners can still directly contribute, should be continued, but the resultant summary bulletins and other guides, work samples, etc., can be shared for any DoD acquisition personnel on the recommended virtual site. Once the CSO Center of Excellence has been fully established in the Air Force, perhaps the DoD may consider positioning the Center at the DoD level as a way of ensuring the sharing of CSO resources and knowledge throughout the DoD.

Address Resource Constraints Through Organizational Structuring

Beyond the individual contracting officer training and development, a key recommendation is for senior contracting officials to recognize the resource constraints that may result in the use of CSOs and take action to develop organizational structures accordingly. While the CSO is touted as an easy and streamlined process, it has been anecdotally proven in the CSO Cross Talks and the authors' own observations to become administratively cumbersome to manage when industry implies a high likelihood of strong interest in submitting proposals. Depending on the agency's structure, separate CSO divisions and additional personnel may be necessary to ensure the potential efficiencies can be maximized. Senior leaders should ensure sufficient budget for the additional personnel and resources to support the additional workload required to realize efficiencies from the use of CSOs. Contracting offices must also ensure they achieve buy-in from their agency's technical subject matter experts (SMEs) and all necessary agency stakeholders, such as IT, cyber security, and logistics, to facilitate prompt proposal review, operational feasibility, and close collaboration with the contracting officer(s) to draft successful contracts.

Senior leaders should ensure sufficient budget for the additional personnel and resources to support the additional workload required to realize efficiencies from the use of CSOs.

Publication of Requirements and Industry Involvement

Another recommendation is regarding industry engagement as numerous findings point to the need for creative means to interact with potential offerors. To successfully reach the often-nontraditional companies that may otherwise be intimidated or discouraged by FAR-based solicitation techniques, DoD agencies need to make a particular effort to advertise their CSOs beyond the government point of entry. Links to the CSO posted on LinkedIn or industry-specific websites would be helpful. Beyond that, technical SMEs or contracting personnel could attend industry conferences to have one-on-one networking opportunities with the types of companies that appear to have government-applicable innovative ideas. This recommendation

can be categorized under training and development as it deviates from traditional solicitation publication methods; the acquisition workforce would need education on the value of taking these extra steps beyond the usual process. The posting of the CSO mimics a combination of market research techniques and the solicitation; embracing this recommendation takes advantage of this opportunity for efficiency and evolves it through combining additional pre-award elements of information sharing (FAR subpart 5.1), leading to further opportunities for efficiency.

Improve Reporting of Negotiation Documentation to Capitalize on the Department's System of Systems

Our penultimate recommendation addresses a final policy, tracking, and reporting change. We recommend a policy change that expands the mandatory reporting requirement and upload of cost/price negotiation documents for *all* contract actions valued above $25 million *regardless of the competitive nature of the requirement.* The requirement to determine a fair and reasonable price is universal and does not distinguish between whether the action is competitive or noncompetitive. Our recommendation recognizes that when negotiations occur, FAR 15.406-3 requires that those negotiations be documented in some form. CSOs are not exempt from this documentation requirement when the contracting officer engages in negotiations. This change will provide additional resources to contracting officers in developing future negotiation objectives for both CSOs and those using FAR-based techniques by expanding the pool of available resources useful for preparing for and establishing negotiation objectives. We further recommend the Contract Business Analysis Repository (CBAR) tool be modified to include a field that requires solicitation and evaluation methodology when uploading a negotiation document. Including this field will enable a more streamlined method to conduct reviews and analyses of how fair and reasonable pricing is achieved for both CSOs and all other reportable contract actions.

Further, even for contracts that do not exceed the minimum reporting threshold established in the DFARS Procedures, Guidance, and Information, DoD should consider requiring reporting of the process(es) used to determine fair and reasonable pricing, especially for commercial acquisitions, including those that used the CSO solicitation technique. This requirement will provide an array of valuable data, bolstering the negotiating process and lessening the narrow reliance on business acumen to determine price reasonableness. Scaling the CBAR tool could then lead to further applications to support negotiations, such as

connection points with the USAF's weighted guidelines online tool and others, but those applications are beyond the scope of this research and its recommendations.

Caution Against Wide-Sweeping Changes in Policy

As a final recommendation, we recommend constraining future policy regarding the CSO solicitation technique to only that necessary to execute legal contracts and agreements. As reflected in this research, innovation requires flexibility and freedom to engage in continuous improvements and limit imitation. To maintain the flexibility of CSOs, future policy should avoid unnecessary restrictions in the CSO process. Rather than policy that constrains or restricts the CSO solicitation process, the government should instead invest in its KM environment and bolster the government workforce's knowledge and understanding of CSOs to facilitate further innovation in the procurement process.

Doing so will equip the DoD workforce with the "best weapons with which to compete … knowledge and service" (p. 132) as discussed by Johannessen et al. (1999) and this research. This will lead to increased learning capacity of the DoD's knowledge workers and secure a competitive advantage of defense superiority. The CSO process and this recommendation, taken collectively with our other recommendations, will facilitate the DoD securing this competitive advantage through KM.

Conclusion

Our research established that the traditional FAR-based solicitation and award techniques are considered "inflexible" (Section 809 Panel, 2018, p. 6), "inefficient" (Department of Defense Inspector General [DoDIG], 2015, p. 10), and "slow" (DoDIG, 2022, p. 7). This research also recognized that these traditional models are bureaucratic and result in delays in fielding innovations as discussed by Congress and oversight committees (Government Accountability Office [GAO], 2019). Considering these concerns, this research explored the CSO solicitation technique and the contract awards issued as a result to capture the collective strengths, weaknesses, and best practices of the CSOs. Moreover, the research enabled the aggregation of lessons learned and bolstered the DoD's KM environment, leading to further proliferation of our findings and observations in the acquisition of innovative solutions. As a result, we provided recommendations in the areas of training and development, policy, and tracking and reporting to bolster the data and process value streams for the DoD's executive decision-makers and practitioners.

We recognized that the adoption of the CSO as a permanent authority to solicit solutions was an act of innovation, one that could frame future adoption of processes and authorities to achieve greater innovation as the CSO process matures.

Our research was catalyzed through the foundational theories of innovation, with a primary focus on innovation theory in KM environments before exploring innovation through other paradigms. Our team recognized that CSOs present opportunities for the DoD to make critical investments in technology and capability by applying innovation theory in the development of its KM environment. Through this understanding, we recognized that the adoption of the CSO as a permanent authority to solicit solutions was an act of innovation, one that could frame future adoption of processes and authorities to achieve greater innovation as the CSO process matures.

The primary purpose of our research was to identify the strengths, weaknesses, and best practices of the CSO as a solicitation technique leading to a contract award. In recognition of that purpose, our

researchers intended to provide the DoD and its workforce with a consolidated report analyzing available data on the CSO solicitation technique and making recommendations based on the use of CSOs. As a result of our research, we achieved that purpose, fulfilled the intent of the research, and provided a consolidated analysis of the available data through the exploration of the available data from published reports and the CSO Cross Talks. Additionally, we provided eight targeted recommendations, each with their anticipated benefits and means to implement, encompassing the three themes of training and development, policy changes, and tracking and reporting.

Our research was the first to delve into the use of CSOs and is exploratory in nature. Based on our research findings, we do suggest the following areas for further research.

- First, additional research should be conducted by further dissecting and disseminating the contract data into individual commands to support an exploration of what, if any, unique processes or approaches those commands employ that led to efficiencies. Through that exploration, the acquisition community can glean lessons learned and develop a more robust set of guidance and procedures to fully maximize the efficiencies of using the CSO solicitation methodology.

- Second, recalling our CSO Cross Talk findings that noted a lack of accurate CSO data reporting, we propose that the adoption of our recommendations *are* critical to supporting future research. With the implementation of our recommendations, future research can be conducted to further understand the DoD's CSO utilization and draw further conclusions about the strengths, weaknesses, and best practices of CSOs as a solicitation technique.

- Third, our research focused on CSOs resulting in award of FAR-based contracts; however, no statute prohibits awarding an OT from a CSO as long as it is fixed-price. In fact, the language of Section 803 of the FY 2022 NDAA (2021) specifically authorizes the CSO process for both "contracts and agreements" (p. 274). Accordingly, future research could be conducted using the methods established in our research to analyze strengths, weaknesses, and best practices as they particularly apply to CSOs resulting in OTs.

- Fourth, since a motivator for the government to use CSOs is to remain competitive for the best ideas and solutions available from private industry, further research on industry engagement with CSOs as compared to FAR-based competitive solicitations could be valuable. While best practices of industry interaction were discussed in our findings, direct feedback from companies of CSOs' strengths, weaknesses, and best practices from industry's perspective would be helpful to prevent the loss of innovative solutions to private industry exclusivity or foreign adversaries.

> **By implementing the recommendations provided in this research, we believe that the DoD will be postured to utilize the CSO solicitation technique to its fullest potential, closing the technological capability gap and providing for better defense capabilities to the nation.**

In conclusion, CSOs provide an opportunity for the DoD to capitalize on the innovative capabilities and advances of industry, propelling the DoD to expanded solutions horizons, improving industry participation and competition, providing process flexibility, and securing against protest risk. As a solicitation technique, the CSO is a valuable tool to achieve innovation, but prudent planning and application of the best practices identified in this research are critical to ensure acquisition success. In summary, by implementing the recommendations provided in this research, we believe that the DoD will be postured to utilize the CSO solicitation technique to its fullest potential, closing the technological capability gap and providing for better defense capabilities to the nation.

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