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Application of Should Cost Methodologies to Address Savings Across the Acquisition Life Cycle

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Abstract

The goal of this research is to examine the Air Force Should Cost Methodology and how effective it is at influencing programs to document and implement Should Cost Initiatives (SCIs) and savings opportunities. The Air Force produced a comprehensive program that includes a workshop where AFIT facilitates a seven-step process to discover SCIs for attending programs. The goal of the Workshop is for each program to develop at least one SCI. AFIT is not the expert on the individual programs; the attendees are, and AFIT guides the Workshop instead of directing specific methods. As a result, since the inception of the AFIT-led Should Cost Workshop in March 2016, 31 IPTs have attended with 89 SCIs identified and \$1.039 billion reported by the IPTs as potential savings over the upcoming 1–3 year timeframe. Many lessons learned have been documented, resulting in several recommendations to improve the Workshop.

Full Abstract

The goal of this research is to examine the Air Force Should Cost Methodology and how effective it is at influencing programs to document and implement Should Cost Initiatives (SCIs) and savings opportunities. This methodology is in accordance with the



Department of Defense (DoD) Better Buying Power (BBP) initiative that requires programs to actively manage costs through the careful assessment of the contributing drivers of cost across a program, identification of goals for cost reduction, and implementation of specific efforts designed to achieve those cost reductions. The Air Force decided to produce a program in two phases. Phase 1 was to develop an asynchronous distance-learning course for the Air Force acquisition workforce to educate them on and provide wide exposure to the current Air Force policy on Should Cost. This resulted in the development of the distance learning course SYS 190 Air Force Should Cost Fundamentals. With this foundational knowledge now available to the entire Air Force acquisition workforce, AFIT moved to Phase 2, which was to develop a facilitated the Workshop where AFIT faculty SMEs would help guide complete integrated project teams (IPTs) to follow the seven-step process to discover SCIs on their projects.

The Air Force Should Cost Workshop (WKSP 0656) is sponsored by the Secretary of the Air Force/Acquisitions (SAF/AQX) and is designed to be delivered to IPTs rather than individual students. Each team consists of representatives from program management, contracting, financial management, engineering, cost analysis, logistics, and other subject matter experts (SMEs) that form the core IPT. The goal of the Workshop is for each IPT to develop at least one SCI for their program. A key strength of the Workshop is AFIT personnel act as facilitators rather than instructors. AFIT is not the expert on the individual IPTs; the attendees are, and AFIT guides the Workshop instead of directing specific methods.

As a result, since the inception of the AFIT-led Should Cost Workshop in March 2016, 31 IPTs have attended with 89 SCIs identified and \$1.039 billion reported by the IPTs as potential savings over the upcoming 1–3 year timeframe.

Much has been learned from these workshops and AFIT is continually listening to its attendees. Lessons Learned include: Depth of analysis is highly dependent on data access and having the right technical and functional expertise on the program. Full team representation equated to more in-depth analysis while less than full team representation resulted in mostly summary or high level results. Additionally, cross-talk and idea sharing proved valuable to IPTs and often bridged the gap when teams were not fully prepared.

As a result, several recommendations are offered:

- Fully examine potential IPTs to determine if they are ready for the Workshop. Attendees must be post milestone A in order for significant data to exist to analyze.
- Contact IPT leadership to ensure their participation in Workshop kick-off and/or final day closeout.
- Group workshops on similar program type if possible. This is aimed at creating synergies between programs and increasing idea sharing.

Research Issue and Objective

The Air Force Should Cost Workshop is intended to produce multiple Should Cost Initiatives (SCIs) after the rigorous application of AFIT's established seven-step process by actual members of selected program IPTs. SCI data produced during a Workshop is not consistently documented to determine if actual SCI savings were achieved or even realized. Follow-up analysis will determine the status of previous SCIs and produce useful data to construct predictive models to identify trends, patterns, and commonalities of SCIs. Data



gathering will produce numerous categories of SCIs that will be analyzed with tools such as Pareto Analysis.

Methodology Development / Background

Ashton Carter, Under Secretary of Defense, Acquisition, Technology, and Logistics (AT&L) issued his memorandum on June 28, 2010, titled *Better Buying Power: Mandate for Restoring Affordability and Productivity in Defense Spending*. Carter states his goal of “delivering better value to the taxpayer and improving the way the (Defense) Department does business.” This was the start of Better Buying Power (BBP) 1.0 which introduced a new paradigm toward cost savings by adopting government practices that encourage efficiency through the use of Should Cost management (Carter, 2010, p. 1). The Air Force responded the following year by issuing further guidance from Jamie M. Morin, Assistant Secretary of the Air Force—Financial Management and Comptroller, dated June 15, 2011, entitled *Implementation of Will-Cost and Should Cost Management* (Morin, 2011, p. 1). This document challenged program managers to drive productivity improvements into their programs during contract negotiation and program execution by conducting Should Cost analysis.

Air Force acquisition leadership at SAF/AQX and Air Force Life Cycle Management Center (AFLCMC) understood that to fulfill the goals of BBP’s emphasis on affordable programs and development of cost savings via Should Cost Initiatives, there were several obstacles faced by the Air Force acquisition workforce. Chief among them were educating a large, diverse workforce on Air Force Should Cost policy and a methodology or approach for implementing that policy, along with an ability to assist IPTs in following the methodology to discover SCIs for their specific programs. SAF/AQX had previously worked to provide education on the history of BBP and Should Cost, along with current policy, as part of a Should Cost Workshop developed and taught by the University of Tennessee under contract to SAF/AQX. The Workshop was delivered as a live, classroom-based course at a variety of Air Force bases, but budgets and time allowed for only a few offerings during the existing contract. A solution was needed that could more quickly impact a much larger percentage of the Air Force acquisition workforce. SAF/AQX enlisted the support of Should Cost subject matter experts at AFLCMC/AQP, working in conjunction with faculty at the School of Systems and Logistics at the Air Force Institute of Technology (AFIT/LS) to develop a two-phased approach to addressing these obstacles.

Phase 1 was to develop an asynchronous distance-learning course for the Air Force acquisition workforce to educate them on and provide wide exposure to the current Air Force policy on Should Cost. The course, entitled SYS 190 Air Force Should Cost Fundamentals, provided historical background on BBP and Should Cost, along with current DoD and Air Force policy on Should Cost and Should Cost Initiatives. AFIT faculty, working with SMEs from AFLCMC, developed a new, seven-step methodology for discovering and documenting Should Cost initiatives. SYS 190 describes the seven-step process, provides examples and illustrations of how the process could be applied, and also provides video-based case studies of a variety of Air Force programs that had discovered and implemented successful SCIs, with key team members or project managers from each project describing how their SCIs were discovered.



A 7-Step Methodology for Discovering & Documenting SCIs

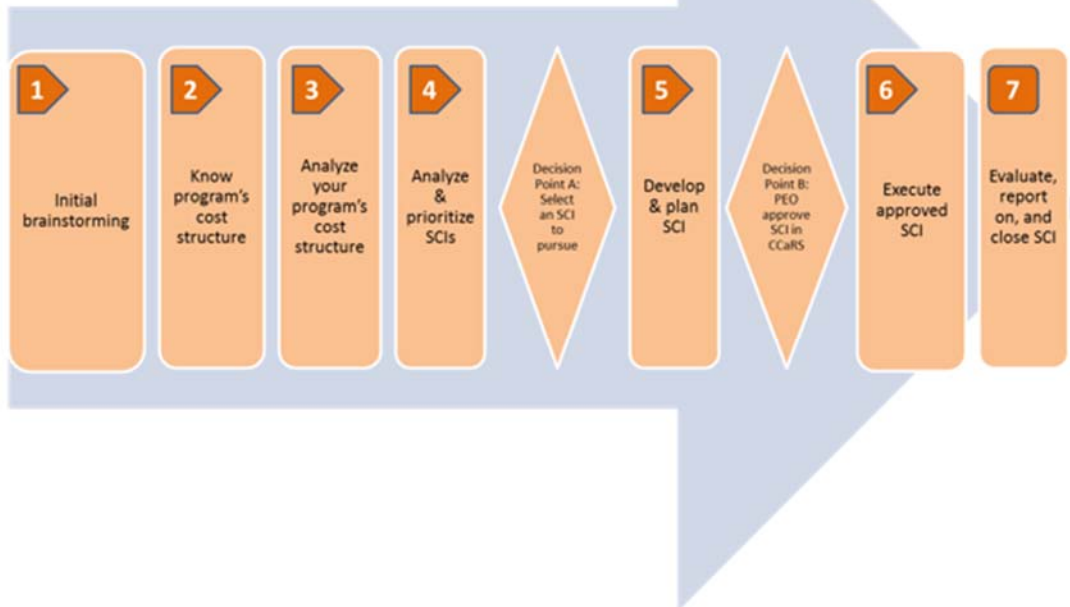


Figure 1. A 7-Step Methodology for Discovering and Documenting SCIs

The seven-step process as developed by AFIT is summarized as follows (see Figure 1):

Step 1 is to form a cross functional team and perform an initial brainstorming session. This is an opportunity to discover “low-hanging fruit,” by encouraging creative thinking, while addressing aspects of a program that seem wasteful or inefficient. This is an attempt to capture some obvious ideas right up front before completing a deep dive into the program’s cost structure looking for other SCIs.

Step 2 is to examine and know the program’s cost structure. The goal is to understand where the majority of program costs lie, and to understand the key drivers of those costs and how those drivers might be influenced.

From that understanding of the program’s cost structure, we turn to **Step 3**, where the teams attempt to take that detailed knowledge of the program’s cost structure and analyze it from many different perspectives to find opportunities to save costs and/or increase efficiencies on the program. This is arguably the hardest and most time-consuming step in the process. By the time the teams reach **Step 4** in the process, functional teams have at least a few potential SCIs identified, both from the Step 1 brainstorming sessions and from the deep dive and analysis in Step 3. In Step 4, the list of potential SCIs is analyzed and prioritized emphasizing which SCIs to pursue first, second, and so on.

At the first decision point, Decision Point A, the team selects a particular SCI to pursue. The resultant SCI transitions to **Step 5**, where a Plan of Action is developed to implement the SCI and estimate the cost savings (in terms of cost avoidance and budget savings). It is also in this step where the initiative is loaded into the Comprehensive Cost

and Requirements System (CCaRS) database. CCaRS is the official Air Force repository for this information, and provides a “dashboard” for leaders and decision makers to gather data for their needs while minimizing data collection requests from programs. It should be noted here that there is nothing prohibiting a program from planning and implementing multiple SCIs simultaneously.

Decision Point B is the point where the SCI is presented to the PEO for approval. **Step 6** begins after PEO approval, where work begins on the approved SCI using the plan developed in Step 5. Estimates and actuals for savings and realization dates are to be input and tracked using CCaRS.

Finally, **Step 7** is where the SCI is completed. The success (or failure) of initiatives are documented, along with details and lessons learned. If successful, the realized Should Cost savings are recorded, an update to the reinvestment recommendations is submitted (as required) for approval, and the SCI is closed.

These steps are straight-forward and easy to understand, but the work at each step is often detailed and difficult. AFIT believes there is nothing magical about this process, and others could come up with a slightly different process that works just as well. Whatever process a program follows, understand that just following the steps will not automatically produce SCIs. Finding SCIs is the result of detailed analysis and thinking by a diverse group of individuals who know the program—often difficult, time-consuming work. With this foundational knowledge available to the entire Air Force acquisition workforce, SAF/AQX and AFLCMC then asked AFIT to move to Phase 2, which was to develop a facilitated workshop where AFIT faculty SMEs would help guide complete IPTs to follow the seven-step process to discover SCIs on their projects.

Workshop Delivery

The Air Force Should Cost Workshop (WKSP 0656) is sponsored by SAF/AQ and is designed to be delivered to IPTs rather than individual students. AFIT is subscribing to the idea that an IPT populated by qualified functional departmental representatives is best for discovering and analyzing SCIs. Functional teams typically consist of a representative from program management, financial management, contracting, engineering, logistics, cost analyst, functional project experts (i.e., machinist, aircraft specialist, technology expert, etc.), and other subject matter experts (SMEs) that are needed to fully examine Should Cost Initiatives. This reduces the possibility of focusing too much on individual disciplines and not considering the full team’s experiences. The objective of the Workshop is for each IPT to produce at least one SCI to be presented to leadership for approval. Most IPTs develop multiple SCIs which broadens the likelihood of approval. AFIT instructors act as facilitators during the Workshop (rather than traditional course instructors) to guide IPTs through the process.

In order for participants to better understand the Workshop concepts, IPTs are required to take SYS 190 as a prerequisite before attending the live Workshop. AFIT facilitators explain the Air Force seven-step methodology (see Methodology Development / Background above) during the two-day Workshop. Steps 1–4 are presented in detail as these are the core processes needed for SCI development. Ample time is given for the IPTs to gather in breakout groups to go through each step; in fact, the majority of class time is spent in breakout sessions developing potential SCIs. This is where IPTs can dig-in and analyze their projects down to the individual cost element level. This level of detail forces the IPTs to (fundamentally) question everything. Facilitators encourage IPTs to grab the “low hanging fruit” or the obvious costs savings that only they know. This combined with Pareto Analysis produces ideas that can be analyzed to give the “biggest bang for the buck” for



their programs. After each step, the IPTs gather together to out-brief their results to the other teams. This encourages one of the more valuable aspects of the Workshop—idea sharing across IPTs. Also called “cross-pollination,” IPTs share their SCIs, ideas, and experiences. It is not unusual for other IPTs to gain new insight into processes that were not being considered before. Examples include the following:

- Using government testing facilities instead of paying for contractor-owned space
- Utilizing government furnished property (GFP) when applicable instead of purchasing the equipment by vendors
- Using simulators more extensively instead of actual flights, live fire tests, and other costly real-world testing
- Sharing base-wide contacts to help expedite activities.

This is where many of the “Should Cost non-believers” begin to see the value and importance of the Workshop. The second day of the Workshop ends with a discussion of steps 5–7. While these steps are not the focus of the Workshop, it is important for IPTs to understand and follow through with actually documenting, planning, approving, executing, and eventually closing each SCI.

Workshop Evaluation: Commonalities

The AFIT team is pleased with how the Workshop is being delivered based upon results (number and value of SCIs developed) and student feedback from Workshop surveys received after each offering. There appears to be a predictable pattern developing that determines how successful a particular Workshop will be given the enthusiasm expressed by potential IPTs. While all IPTs have been professional, engaged, and hardworking, some are more prepared than others. Common signs of less productive IPTs include lack of necessary data to perform needed analysis, lack of representation along functional lines, inexperienced or new team members assigned, poorly documented cost data, and teams not understanding their cost baselines. Common signs of more successful IPTs include fully represented functional teams with experienced members in attendance, one or two IPT members are in charge and direct their team’s activities (they seem to work more efficiently), clear support from their leadership concerning the importance of Should Cost, complete access to costing data (and any data needed), and team members being open to new ideas. For additional insight, see the section entitled Workshop Lessons Learned below.

We have observed when similar IPTs are in attendance during a Workshop, additional benefits present themselves. The most obvious is a familiarity with systems and the overall mission of the programs. One example was when a Workshop had two munitions IPTs present. During post-step evaluations, questioning was more intense and detailed. Idea sharing was effective and highly productive. A camaraderie develops to actually encourage similar IPTs to try and help each other to root out costs and further develop SCIs. As mentioned earlier, this also produces new contacts that IPTs can reference and consult with in the future. One would assume that similar programs at the same location would be interacting but our team has noticed this is not a good assumption. Programs can be stove-piped and isolated for various reasons. Increased interaction between similar teams can have only positive effects.



Workshop Should Cost Data

Since its beginning in March 2016, the Should Cost Workshop has accumulated data across 20 Workshop offerings at eight Air Force installations. A total of 31 IPTs participated, producing 89 SCIs that were divided into 12 categories totaling \$1,039,743,000 of potential Should Cost savings. Table 1 illustrates Workshop locations with associated IPTs, SCIs, and potential savings. Note: For the purposes of this paper, we are not disclosing the association between SCIs and their individual IPT due to implied confidentiality given during the Workshop. All data is accessible through existing reporting channels (see CCaRS discussion below) to those with proper access to the system.

Table 1. AFIT Should Cost Workshop Locations Data

Location	IPTs	SCI	Dollar Savings
Eglin AFB	3	11	\$6,603,000
Gunter Annex, AL	3	6	\$130,000
Hanscom AFB	5	27	\$286,350,000
Hill AFB	7	2	\$6,100,000
Robins AFB	2	7	\$87,780,000
Tinker AFB	1	3	\$48,250,000
WPAFB	10	33	\$604,530,000
Arlington, VA*	1	1	\$22,400,000,000
	31	89	\$1,039,743,000

*Arlington, VA IPT and SCI not included with \$22.4B F-35 in Workshop totals. F-35 was an unusual SCI given the size of the program and 65-year amortization (see discussion below).

While we decided to not disclose specific individual IPT data, we would like to share a sampling of the collected SCIs. While not associating them with their particular IPT, a sampling by SCI type will help to illustrate the variety of SCIs developed by the IPTs. This data is illustrated in Table 2. Additionally, we are including a sampling of the IPTs that attended our Workshop in Table 3 divided into ACAT I (large) and ACAT II & III (small) projects to illustrate the diversity of the programs that attended.

Table 2. AFIT Workshop IPT SCI Examples by SCI Type

	SCIs	Type
1	Contractor Installs	Contractor
	Competing Support Equipment	Contractor
	Quality 2nd vendor	Contractor
	Buy Kits via Small Business	Contractor
	Contractor Travel	Contractor
	Production Strategy (LRIP) Procure 50/50 split w/ both offerors	Contracts
2	Implement Mil Cloud	Data
	Data Rights	Data
3	MIDS JTRS Lot Buy	Hardware
	ARMS CIE Tech Refresh	Hardware
	Modularization/refactorization	Hardware
	Use GFP instead of actual equipment purchase	Hardware



4	Remove plugin and reduce man-hours for PGMPs	Labor
	Decrease SEPM	Labor
	Reduce Security Guard Costs	Labor
	Reduce Training Costs & Schedule	Labor
	Manpower Rate Reduction	Labor
5	Engine Overhauls	Maintenance
	Heavy Maintenance Intervals	Maintenance
6	Installation Synergies	O&S
	Competing Communication Modifications	O&S
	Competing Interior Modifications	O&S
7	McAAP Process Improvement (TY\$M)	Process
8	Limit changes to requirements once the build / fix is started	Requirements
	Tracking of Requirements	Requirements
9	Reduce scope of 520th sustainment to only BCSS maintenance	Scope
	Production Rephasing (TY\$M)	Scope
10	Create central repository for baseline code	Software
	Incorporate Mil Cloud capability	Software
	Mirror systems at SSF and OITF	Software
11	Arena test: reduce arena test from 4 to 2 (1 for each contractor)	Test
	Captive flight test: eliminate captive flight test from plan based on SE analysis	Test
	Integrate Flight Test: skip DT and go straight to OT	Test
	Use government owned test facilities instead of contractor's	Test
	Use simulators in lieu of actual flights, live fire tests, and other real-world testing	Test
	Reduce Test Durations	Test



Table 3. Sample of AFIT Workshop Participating IPTs—By ACAT Level

Large IPTs – ACAT I
Airborne Warning and Control System (AWACS) Block 40/45
HH-60 Block 162
F-35 Joint Strike Fighter (JSF)
Presidential Aircraft Recapitalization
Targeting and Geospatial Intelligence (T&GI) Program
Global Hawk
F-15 Multifunctional Information Distribution System (MIDS)
Joint Tactical Radio System (JTRS)
Smaller IPTs – ACAT II & III
Bomb Live Units (BLU-129/B)
Bomb Live Units (BLU-134)
DP / SP Suite Upgrade
Integrated Aircrew Ensemble (IAE) Program
Joint Direct Attack Munition (JDAM)
M-Code
UH-1N - AETC FLIR Replacement

While this paper focuses on the AFIT Should Cost Workshop, we note the existence of more than six years of Should Cost data that is currently available via CCaRS. CCaRS education is part of our Workshop (Step 5 and Decision Point B) where our team instructs students to enter in their SCI data for reporting, tracking, and eventual closure. CCaRS contains a wealth of information that is useful for comparison purposes and helps us understand how our Should-Cost Workshop fares against earlier offerings (non-AFIT).

Individual IPT Discussion: F-35 Joint Strike Fighter

In July 2016, the AFIT Should Cost team delivered a Workshop in Arlington, VA to the F-35 SPO to assist with their ongoing desire to reduce sustainment costs. The F-35 team was anxious to see if our methodology would help with their goal of reducing \$300 billion from the program’s sustainment budget. The System Program Office (SPO) already employed a robust Should Cost process that we were able to help improve upon. Our team knew this Workshop was going to be different when Step 1 of our methodology (Brainstorming) that usually takes two or three hours took the entire first day. The SPO produced 111 brainstorming ideas. Out of all these ideas, it came down to 12 that were seriously considered and only one that was presented. The team was able to convince their management to consider increasing simulator training time by 9% while reducing expensive in-flight training for carrier landings. This landing is considered riskier than others so the suggestion of more simulator training and less actual landings, in this case only, was acceptable. When calculated over the lifespan of the aircraft, it was determined to save \$22.4 billion! The main concern with the identification of the \$22.4 billion savings was that it was spread out over the life cycle of the aircraft which is currently estimated to be the year 2080 (extended from 2065) which makes any estimates uncertain in our minds.

Data Analysis

Our analysis began by looking at the limited aggregate data compiled from the 20 AFIT Should Cost Workshops offered from March 2016 to February 2017. Part of our objective was to determine if there are any SCI correlations between the offerings. Figure 2 looks at the SCI Pareto distribution between the 13 SCI types and the dollar amount



associated with each. The SCI types that were derived from the IPTs are (in order of most dollars to least) maintenance (mostly aircraft), contractor support/service, operating and support (O&S; modifications and installations work), software, contracts, unclassified, hardware, scope, process, test, labor, requirements, and data (see details below).

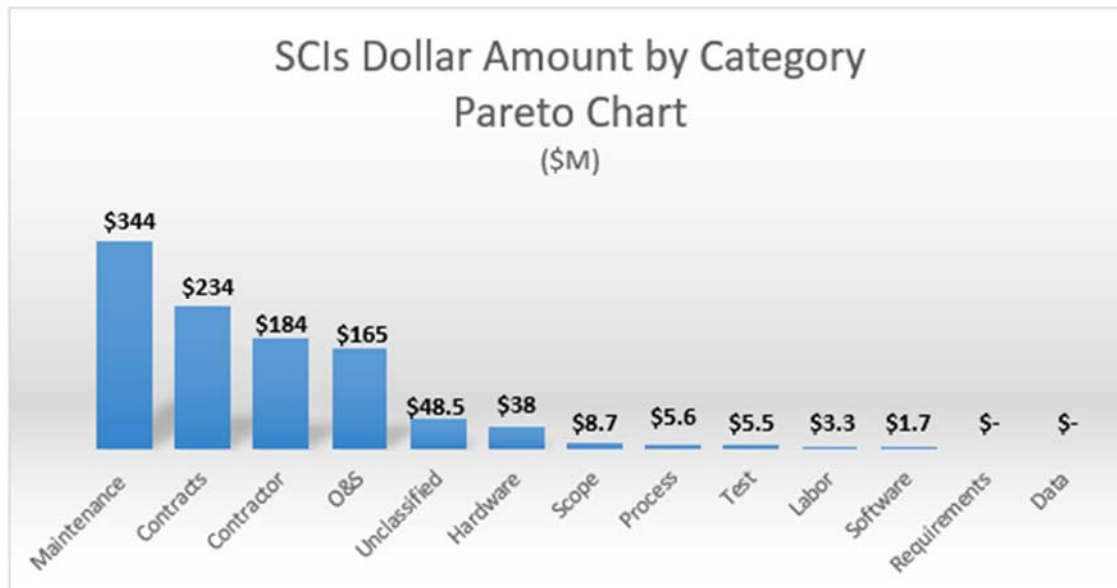


Figure 2. SCIs Dollar Amount by Category Pareto Chart

- Maintenance was by far the highest dollar amount which was associated with two SCIs that entailed engine overhauls and heavy equipment maintenance overhauls. These are examples of the occasional large dollar amount SCIs that were not the norm. This doesn't mean they are not important, rather these are outliers as compared to the majority. This IPT was excited to find such savings for their aircraft and was confident their leadership would approve, though no decision has been made as of the writing of this paper. This also includes reference to the F-35 IPT listed in Table 1 above. This IPT is not included in our dollar totals because of its ability to skew the dollar amounts beyond reasonable comparison. (See F-35 discussion above for more details).
- Contracts were a common target for cost savings, mainly through proposed purchase price reductions and cost sharing. Contracts (and the contracting effort in general) are targets for cost savings given the DoD tendency to rely on Firm Fixed Price (FFP) contracts. This is an area where IPTs could encourage more flexibility that would allow program specific circumstances to influence the selection of contract type more often than they currently do.
- Contractors Support/Service was next, and not surprising given the amount used by the Air Force (and DoD). Though once again 45% of the savings on the contractor SCIs were due to one large contractor installation effort. This presents a limitation based on our small sample size but it does not diminish the effects contractors have on Air Force programs. There is a common belief that contractor costs can be better managed, resulting in cost savings.
- Operating and support (O&S) represents costs associated with modifying, maintaining, installing, and supporting equipment and were big items considered from our aircraft IPTs.



- The unclassified category pertains to those SCIs that were assigned a dollar value but were not detailed enough by the IPTs. The AFIT team was advised that the IPT may get back to us with the details at a later date.
- Hardware was the result of only two IPTs that were updating system hardware. The AFIT Should Cost team thought this would be more of a common savings area, but IPTs explained many upgrades are in the form of Commercial Off-the-Shelf (COTS) hardware with little bargaining room due to smaller lot buys over many years. Suggestions were made to pursue lifetime buys, though the effectiveness of this depends on the program.
- Items such as scope, process, test, and labor tended to be low dollar, but representative of a large number of SCIs.
 - Labor can represent a large portion of program cost (especially service-oriented contracts) where significant savings can be realized. It can be noted that IPTs working with large integrators like Boeing, Lockheed Martin, Raytheon, etc. are frustrated with DCMA and other defense organizations that issue pre-negotiated wrap rates that cannot be changed. IPTs do concede they may not know the big picture when it comes to large vendors but the ability to negotiate more on the program/project level would be welcome.
- Requirements and Data received a total of six SCIs but no dollars associated. Requirements (only one program) listed dollars as TBD due to pre-milestone B program status and would supply once finalized. Data focused on the data rights of one program which were still under negotiation with no dollar amount available.

The AFIT Should Cost team is satisfied at the number of SCI types which we interpret as IPTs performing deep analysis and being creative in generating cost saving ideas. The IPTs realize that not all of their ideas will be successful (or even approved) but this did not inhibit their desire to look deeper for savings.

The next area of research includes the actual number of SCIs developed, as illustrated in Figure 3. While one would surmise that high dollar amounts equate to high SCI count, they would nevertheless be mistaken. Some of the highest SCI counts relate to the lowest dollar amounts and vice versa. Two of the smallest dollar amounts, Test and Labor specifically, account for over 22 of the 89 SCIs (or almost 25%). This apparent randomness can best be observed in Figure 4 where we transposed Figures 2 and 3 to get the combined view. It would appear that there is no correlation between the number of SCIs and anticipated savings to a project. Our takeaway from this is not to underestimate what any IPT can achieve when examined in a non-attributive setting and allowed to challenge the status quo. This does not guarantee approval, but it does broaden the awareness of individuals and provide a catalyst for critical thinking focused on ways to save and be more efficient within their IPTs.



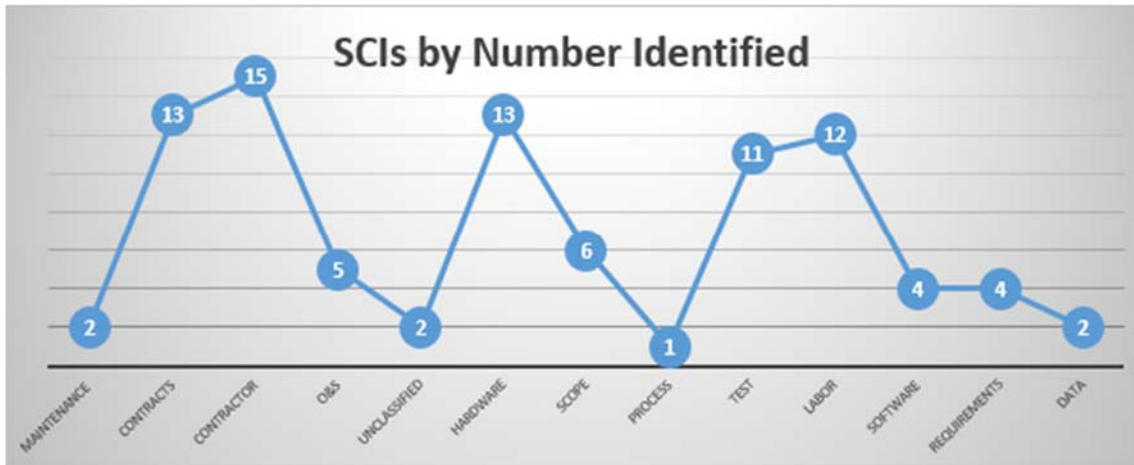


Figure 3. SCIs by Number Identified

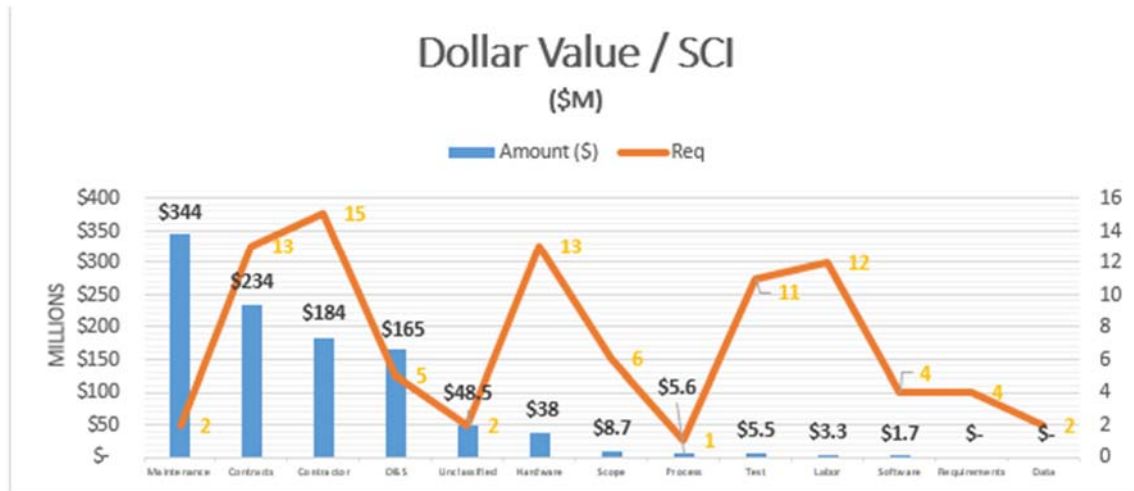


Figure 4. Dollar Value per SCI

The AFIT Should Cost team analyzed more than just the data accumulated from the Workshops. General behavior played just as important a role when considering how it can affect IPT performance and ultimately Workshop results. Workshop Delivery (see section above) talked about the mechanics of the Workshop but not the interactions between the IPTs and individual team members. As a result, we have compiled a listing of Workshop lessons learned from the AFIT Workshops that incorporate our observations from the IPTs. No one particular lesson learned was unique to any one IPT; rather, these lessons learned are considered trends seen throughout the Workshops.

Workshop Lessons Learned

- Coordination with local IPTs is vital for success. Proper screening of candidate IPTs helps eliminate teams that are either too early in the acquisition life cycle to be effective (pre-milestone A) or too close to project closeout.
- There is a tendency for participants to be distracted by current work assignments, with many either missing large parts of the Workshop or not returning at all. PEO/PM involvement is required to mitigate this issue.



- IPT/base leadership support is key to success. Workshops that included leadership endorsement either in person or via IPT communication exceeded expectations. Where this support was lacking, Workshop IPTs tended to have missing or incomplete data, non-optimal program team representation (i.e., not all functional areas represented), inexperienced participants, and a higher propensity for attendees to show lower interest.
- Depth of analysis is highly dependent on data access and having the right technical and functional expertise on the program. Full team representation equated to more in-depth analysis while less than full team representation resulted in mostly summary or high level results.
- Cross-talk and idea sharing proved valuable to IPTs and often bridged the gap when teams were not fully prepared.
- IPTs frequently request a listing of existing SCIs from past Workshops as a guide to discovering their own SCIs. While examples do exist, the AFIT facilitators are reluctant to provide this information because we want the IPTs to go through the process and discover their own SCIs rather than selecting from a pre-existing list. A compromise may be reached where a listing of program specific SCIs is provided after Step 4. This would be a reference list that may be added if deemed useful. Another option would be to offer SCIs from unrelated programs (i.e., show munition SCIs to an aircraft IPT) where team members can get the idea of the level of detail / focus, which they can apply to their analysis. AFIT is still analyzing the benefits of each technique.
- Whether prepared with data or not, most participants said they were better informed and more prepared to engage in Should Cost Initiatives after the Workshop, than before. Most of the “reluctant participants” became valuable contributors.

Every course or workshop developed by AFIT has a goal of educating and informing attendees with new or better means and methods to help foster professional success. This is certainly true for the AFIT Should Cost Workshop. However, AFIT does have limitations when it comes to influencing student behavior once they leave the classroom. Steps 5–7 of our methodology instructs IPTs to enter their SCIs into CCaRS so they can be documented, monitored, and tracked. This is our primary way to measure how successful SCIs are for each program. Unfortunately, this is the area that could use the most improvement. Should Cost data in CCaRS (limiting the search from March 2016 to February 2017) was analyzed to determine how many IPTs had actually entered data within the time period AFIT provided Workshops. Between March 2016 and February 2017, 108 IPTs DoD-wide documented 228 SCIs. Of these totals, only six IPTs actually recorded SCIs in CCaRS; the number of SCIs recorded by these six IPTs in CCaRS was eight. This means that 5.5% of the IPTs entered their data (6 out of 108 IPTs) and 3.5% of the SCIs were from AFIT led Workshops (8 out of 228). To be fair, it is unknown how many DoD-wide IPTs did not enter their data because CCaRS does not provide such information. Regardless, the AFIT team would like to see these numbers improve. The cause of these low numbers can be interpreted in two ways: (1) IPTs are continuing to analyze their SCIs and waiting to attain leadership approval prior to entering data into CCaRS, or (2) once the Workshop ends, IPTs quickly lose focus on SCIs and return to their normal duties. Given the amount of time that has passed since beginning the Workshops, it appears that option 2 is the most likely candidate. With increases in PEO/IPT leadership involvement, the AFIT team believes IPTs would be more motivated to complete the Should Cost methodology by fully documenting SCIs in CCaRS.



Our team will continue to encourage PEO/IPT leadership to become more engaged by communicating the benefits of Should Cost analysis.

Recommendations

There are at least as many means and methods for improvement as there are program types and procurements. In an effort to continue advancing should cost efforts to produce those means and methods, and provide participants with better potential to produce initiatives, the AFIT workshop facilitators and other faculty have provided the following items as recommendations for consideration to improve workshop results. These recommendations are the result of actual Air Force Should Cost Workshop observations and experiences with the IPTs involved:

1. Fully vet the potential IPTs to determine if they are ready for the Workshop. Attendees must be post milestone A in order for significant data to exist to analyze.
2. Contact IPT leadership to ensure their participation in Workshop kick-off and/or final day closeout.
3. Present sample SCIs during Workshop facilitation to aid IPTs in their individual SCI development. These can be grouped by program type, size, or sustainment level if desired. Sample SCIs can also be provided based on unrelated programs. The AFIT team does not want to simply provide a list of SCIs that can be cherry picked by the IPTs. Our goal is for individual IPTs to perform their own analysis. Presenting SCIs from an unrelated program (i.e., an aircraft SCI for a munitions program) will give IPTs an idea of what is expected.
4. Group Workshops on similar program type if possible. This recommendation is aimed at creating synergies between programs and increasing idea sharing. There is still value in having diverse program types attend a Workshop together, so we don't recommend strict segregation by program type.
5. Off-site facilities are preferred over base-provided training locations. When away from the base, IPTs appear to focus better and are not as tempted to return to the office where they can become distracted or potentially not return to the Workshop.
6. During the Brainstorming session in Step 1, AFIT facilitators need to be continually checking on the IPTs to ensure the teams are staying on topic. The tendency to go off on unrelated tangents exists and can be tolerated from time to time but should not dominate the session.
7. Frequent student feedback suggests spending more time on CCaRS for data entry. Usually this is performed by the IPT program or financial managers, but other team members are showing interest so additional time should be spent going into more detail of the application.

The recommendations we provide above are some common themes we have found that foster successful Should Cost Workshop outcomes. However, there is no single silver bullet we can point to that ensures success in these Should Cost Workshops. Rather, it is a combination of factors, some under the control of the program IPT, and some under the control of the Workshop facilitators, which enable program IPTs to successfully identify realistic SCIs. Paying attention to these factors is certainly helpful, but we want to stress that finding realistic, actionable SCIs with the potential for generating savings requires



conscientious preparation and hard work on the part of both the program IPT and the workshop facilitators. We suggest that program IPTs use these recommendations as a starting point for planning their own program's journey through the trials, tribulations, and ultimate rewards to be reaped by applying Should Cost Management to their programs.

References

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