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The Impact of Large, Multi-Function/Multi-Site Competitions

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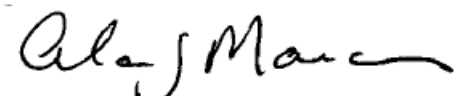

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Executive summary

Within the Department of Defense (DoD), large multi-function competitions[1] are a popular competitive sourcing approach because it is believed that this approach generates larger savings and improved service quality, and is less expensive to implement. Moreover, it is a way to meet the President's competitive sourcing goals with fewer competitions. However, there is also the perception that large multi-function competitions limit small business opportunities, take an excessive amount of time, and cause excessive workforce disruption.

To understand the role of large, multi-function competitions in DoD's strategy to meet the President's Management Agenda, CNA conducted a study of the costs, savings, and performance associated with 16 large (greater than 100 full-time equivalents (FTEs) at announcement), multi-function and multi-site competitions completed between 1996 and 2000. The purpose of the study is to assess the degree to which large-scale competitions completed have resulted in increased savings and service quality and decreased the costs and difficulty of conducting the competitions. Specifically, we attempted to identify the expected, observed, and effective savings; economies of scale; opportunities for small business; ease of implementation; and competition process. As a point of comparison, we also examined several multi-site, single-function competitions.

1. These large-scale competitions are frequently referred to as BOS competitions because they commonly include many of the support functions at an installation or base. Because there is no uniform definition of what constitutes a BOS competition, we examined large competitions (100 FTEs or more at announcement) that included one or more commercial functions or activities.

Conclusion

Based on our review of 16 large multi-function/site competitions, we have concluded that large, multi-function or multi-site competitions can play a significant role in DoD's strategy to implement its competitive sourcing program. Officials believed that large, multi-function/site competitions provided flexibility for innovation, greater savings, lower overhead, clear command and control accountability, and faster, less costly competitions.

Large competitions typically result in higher savings

The 16 competitions we reviewed have an average expected savings of 48 percent, or 15 percentage points higher than the average expected savings rate of 33 percent for the population of competitions in the CAMIS database.[2] Although our analysis of observed and effective savings rates was limited to 11 of the 16 competitions, it indicated that the average savings rates were 44 and 49 percent, respectively.

Our examination of the 16 competitions and the population of CAMIS data indicates that there is positive correlation between competition size and expected savings. There is a slight negative impact on savings rates as additional functions are added (between 2.7 and 4.5 percentage points). However, these negative effects are outweighed by the savings associated with increases in size (see figure 1).

Post-competition performance is satisfactory

Overall, the functional managers, contracting representatives, and customers who we interviewed considered post-competition performance of large multi-function and multi-site competitions to be satisfactory. Post-competition performance was ranked lowest for competitions that were in their first or second year of operation because some transition issues were still unresolved (see figure 2).

2. The 16 competitions should not be viewed as a representative sample of the population of DoD competitions.

Figure 1. Relationship between expected savings and competition size

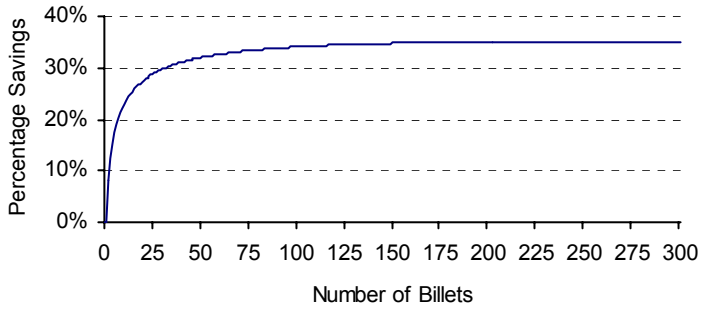
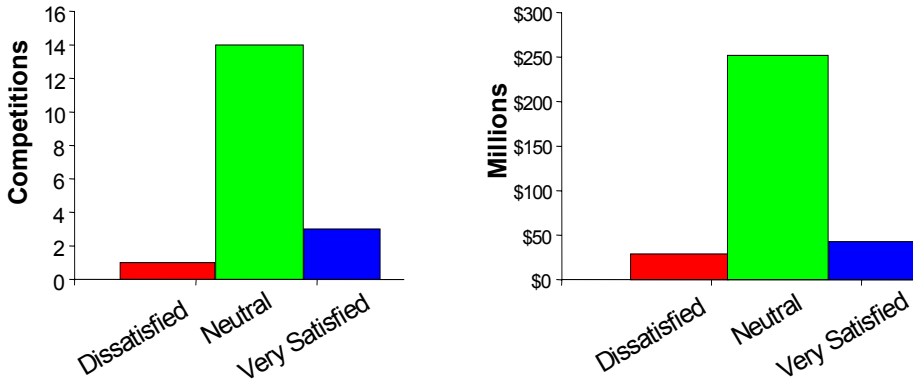


Figure 2. Distribution of competitions' performance by number and cost



Large competitions are efficient to compete

Our sample of 16 competitions took an average of 25 months to complete, similar to the 27-month average of other A-76 competitions DoD completed during roughly the same time period. We found that the 16 competitions were well within the statutory time limit imposed on DoD competitions.

Small business opportunities are not substantially decreased with large multi-function competitions

About 38 percent, or 6 competitions, were restricted to small businesses. Three additional contracts were awarded to small businesses even though the competition was unrestricted. Further, those contracts awarded to large firms had significant small business goals. Small business contractors indicated that large competitions can create opportunities for improved cash flow, mentoring, and business growth.

Competition size is only one factor in the packaging decision

Our review of the 16 competitions indicated that, when making decisions on packaging, officials frequently placed a higher priority on factors that were internal to the organization such as meeting assigned FTE targets or retaining the original organizational structure. As important as size is to the effectiveness of a competition, it should be balanced against the goals or mission of the organization, promote effective competition by considering the structure and composition of the private sector, and be realistic with relevant labor market and economic conditions.

Large, multi-function/site competitions increase the complexity and coordination needs of transition

Although conducting large-scale competitions can yield great efficiencies, the risk of non-performance increases as the number of service providers decreases. Therefore, it is vital that transitions for large competitions be well planned and managed by both the government and the new provider. In the 16 competitions examined, neither the government nor the contractor placed sufficient emphasis on comprehensive transition planning. The government's primary focus was on placing adversely affected employees, often at the expense of sustaining operations. The contractor's primary focus was on the logistics of the transition, and not on becoming familiar with the operations being assumed.

Quality assurance needs new focus

Quality assurance is essential to accurately measure the quality of the new provider's performance. In our review of the 16 competitions, we found that:

- QAEs are generally performing quality control, not quality assurance and expect the provider to perform much the same way as the in-house team had performed.
- QAEs are not sufficiently trained prior to assuming their duties.
- Quality issues are frequently related to the lack of fully developed performance metrics.
- In-house performance did not receive the same scrutiny as did contractor performance.

Recommendations

We recommend that the Department consider increasing the number of large, multi-function or multi-site competitions to increase savings and accelerate implementation of the competitive sourcing program. However, for this recommendation to be most successful, the Department should also:

- *Ensure that the scope of the competition supports mission goals, industry market structure, and prevailing labor and economic conditions.*
- *Improve the packaging process by examining all factors that affect the quality of competition and level of savings.*
- *Improve the transition to the new provider by improving the quality of government and contractor transition plans, balancing mission accomplishment with employee placement, matching length of transition to competition size and complexity, providing training to those monitoring the new provider, and establishing the monitoring organization before performance starts.*
- *Improve quality assurance by focusing on output or results rather than process, providing monitors with adequate training including contract/MEO requirements, and improving performance measures.*

Organization of the report

We begin with a brief introduction that provides the background of the study and summarizes the competitions. Next, we present our findings on the questions posed to us—questions regarding cost, performance, duration of the competitions, and small business opportunities. To address how well the competition process worked, we analyzed each step of the process used by the 16 competitions to identify its contribution to their success or lack thereof. Because the issues of packaging, transition, and quality assurance are critical factors in the decision whether to conduct large or small competitions, we present each of these steps as separate sections. Our findings on the remaining steps in the competition process—performance work statement (PWS) and most efficient organization (MOE) development, independent review, and contracting—are highlighted in a separate section. However, the detailed analysis of each step is provided as a appendix. Finally, we provide our conclusions and recommendations. Our analysis of the management of the A-76 competition process will be issued as a separate report.

There are also several other appendices. They provide our methodology for assessing the expected, observed, and effective costs of the 16 competitions and the approach we used to compare data from the 16 competitions with CAMIS data for completed DoD competitions.

Introduction

President Bush's Management Agenda identifies 14 areas for improving the management and performance of the federal government. One of these areas is competitive sourcing, or the public-private competition of government work that is commercial in nature. In support of the President's Management Agenda, the Office of Management and Budget (OMB) has set targets regarding the number of authorizations engaged in commercial work that federal agencies must compete.

Within the Department of Defense (DoD), large multi-function competitions[3] are a popular competitive sourcing approach because it is believed that this approach generates larger savings and improved service quality, and is less expensive to implement. Moreover, it is a way to meet the OMB targets with fewer competitions. However, there is also the perception that it limits small business opportunities, takes an excessive amount of time,

To understand the role of large-scale, multi-function competitions in DoD's strategy to meet the President's Management Agenda, DoD asked CNA to evaluate 16 competitions in this category. We were to identify why the services and Defense agencies decided to conduct large competitions, how they conducted the competitions, and whether these strategies were successful. We were also asked to determine the savings that are expected and the costs of conducting the competitions, and to identify economies of scale, the small business opportunities, the implementation times, and the ease of

3. These large-scale competitions are frequently referred to as BOS competitions because they commonly include many of the support functions at an installation or base. Because there is no uniform definition of what constitutes a BOS competition, we examined large competitions (100 FTEs or more at announcement) that included one or more commercial functions or activities.

competition. As a point of comparison, we were also asked to examine several multi-site, single-function competitions.

The 16 competitions were completed between 1996 and 2000, and each had 100 or more full-time equivalents (FTEs) at announcement. The competitions represent $323 million in annual pre-competition operating costs and more than 6,000 military and civilian positions. They were conducted by the Army, Navy, Air Force, and the Defense Logistics Agency. Thirteen of the competitions were multi-function with three multi-site competitions used for comparison. Our analysis is focused on the competitive sourcing process and the initial implementation after the decision to either contract out or retain the work in-house. This report documents the results of our analysis.

Background

This study is an outgrowth of an analysis completed by CNAC in 2001 titled *The Long-run Costs and Performance Effects of Competitive Sourcing* and recent data collected in DoD on large multifunction competitions. In the CNAC study, two BOS competitions included in the analysis showed greater than expected savings after competition. Analysis of the DoD data indicate that large multi-function competitions decrease the time and cost of competition by combining several functions into a single competition, thereby reducing redundancies in competition steps. For example, with a large single competition consisting of ten functions, the steps are completed once instead of conducting ten separate competitions and performing the steps multiple times over. Large-scale competitions might also improve service quality by reducing the coordination necessary with multiple service providers. Based on these two examples, the analysis of the savings associated with large-scale competitions and an assessment of time to complete was warranted.

If greater savings can be achieved from large-scale competitions, DoD could satisfy the President's mandate with fewer competitions while generating greater savings for use in meeting mission requirements and improving service to customers. However, there are concerns that large-scale competitions may limit small business opportunities.

It is important, therefore, to determine whether large-scale competitions offer greater advantages than smaller competitions.

Purpose

The purpose of this study is to assess the degree to which large-scale competitions, completed since 1995, have resulted in increased savings and service quality and decreased the costs and difficulty of conducting the competitions. To accomplish this, we will answer the following questions:

- Are the savings from large-scale competitions greater than those small competitions?
- Does service performance improve with large competitions?
- Could large competitions be completed in less time than if the functions were competed as single functions?
- Do large competitions limit small business opportunities?
- How well do these processes work?

Summary of competitions

To answer these questions, we examined 16 competitions completed between 1996 and 2000. We chose this time period because the competitions conducted during this time reflect the current A-76 requirements, are representative of functions in DoD's commercial activities inventory, and would likely be better documented than earlier competitions. Table 1 lists the competitions and provides summary data on their service affiliation, size, dollar value, and resulting service provider.

The 16 competitions consisted of 12 contract and 4 in-house wins. They represented roughly 6,000 positions (4,601 civilian FTEs and 1,525 military billets), or 17 percent of the FTEs/billets competed between 1996 and 2000. Annual pre-competition costs for these competitions totaled about $350 million. The competitions ranged in size from about 69 to 2000 FTEs,[4] with a median size of 171 positions.

4. Announced FTEs were 100 or greater. Post-announcement changes to the PWS decreased the number of impacted employes for this competition.

Table 1. Competition summary data

Competition	Service	Annual baseline cost	Military billets	Civilian FTEs	Result	Type[a]
BOS—transportation, supply, & material maint.	Army	$13,460,313	6	254	Contract	MF/SS
BOS—all major functions (1)	Navy	$132,405,406	201	1,917	Contract	MF/SS
Range operations	Navy	$11,175,128	0	147	In-house	MF/SS
Target operations	Navy	$13,647,901	0	160	Contract	SF/MS
BOS—all major functions (2)	Air Force	$48,910,684	796	238	Contract	MF/SS
BOS—supply & transportation	Air Force	$21,546,870	252	65	Contract	MF/SS
Supply (1)	Navy	$8,478,038	0	163	Contract	MF/SS
Supply (2)	Air Force	$28,940,363	0	619	Contract	MF/SS
Facilities operation and maintenance	Army	$5,164,176	0	69	In-house	MF/SS
Information management	Army	$7,632,321	0	145	In-house	MF/SS
BOS—all major functions (3)	Air Force	$9,645,797	0	163	Contract	MF/SS
BOS—all major functions (4)	Air Force	$9,438,976	0	179	Contract	MF/SS
Communications	Air Force	$11,517,424	190	21	Contract	MF/SS
Property disposal	DLA	$4,794,521	0	100	Contract	SF/MS
Technical training	Air Force	$9,603,061	78	79	In-house	SF/MS
BOS—all major functions (5)	Army	$13,719,851	2	282	Contract	MF/SS
Total:		$350,080,829	1,525	4,601		

a. MF= Multifunction, SF= Single function, MS= Multiple sites, SS= Single site.

Figure 3 illustrates the size distribution of the 16 competitions. The average size was 383 FTEs; however, this average is skewed by a single competition with more than 2,000 positions.

Distribution by service and type of competition

Figure 4 shows the service distribution of the competitions by frequency and pre-competition dollars. The Navy's three competitions represented the largest percentage of pre-competition dollars, $157.2 million (45 percent). The Air Force had the most competitions of any single service or agency in the study (six competitions), which together accounted for 32 percent ($110.7 million) of the pre-competition dollars. The DLA's three competitions represented 12 percent ($42.2 million) of pre-competition dollars, and the Army's four competitions made up the remaining 11 percent ($40 million).

Figure 3. Distribution by size of competition

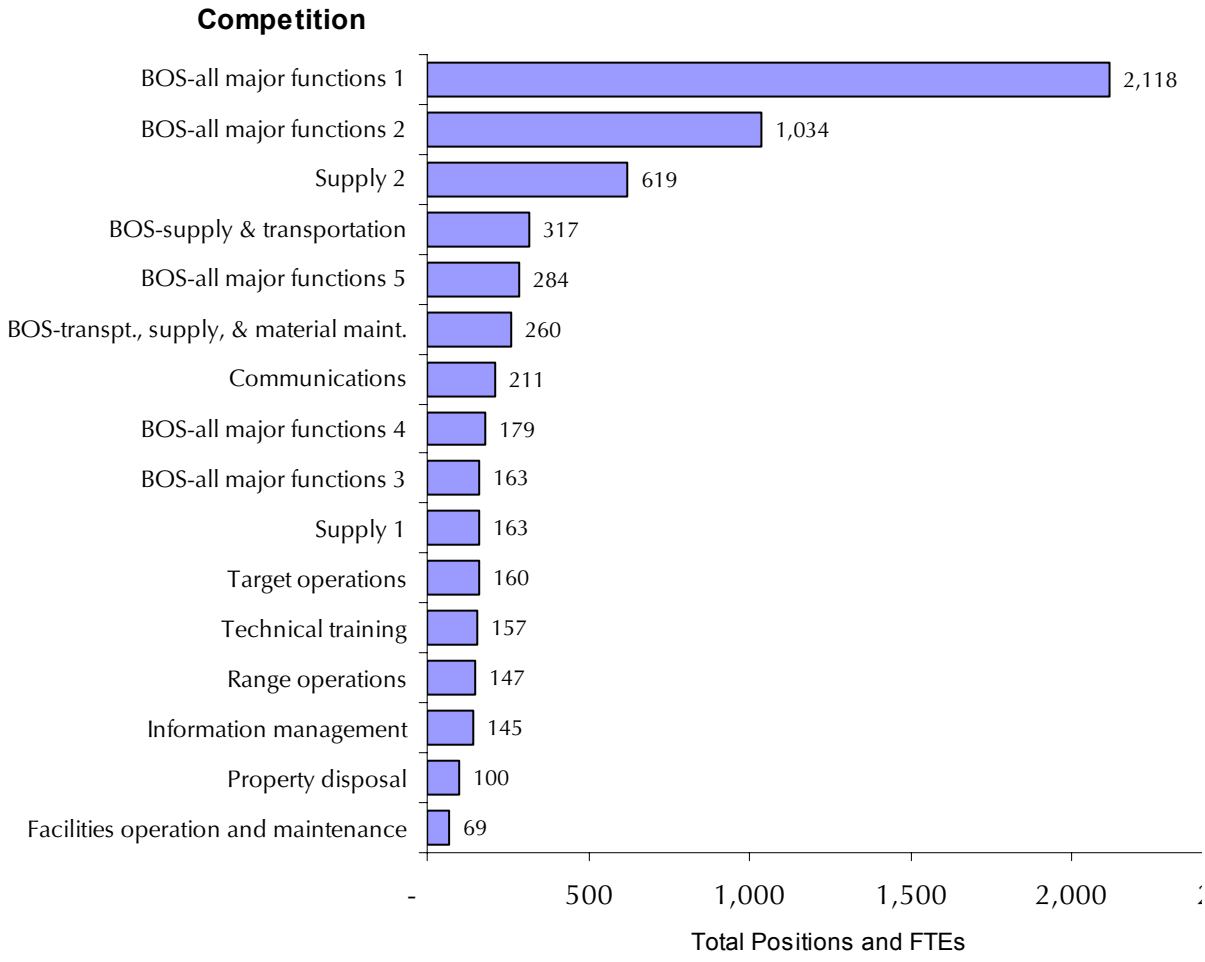


Figure 5 shows that 13 of the competitions we examined were multi-function/single site with the remaining three being multi-site/single function competitions.

Figure 4. Service distribution of the 16 competitions

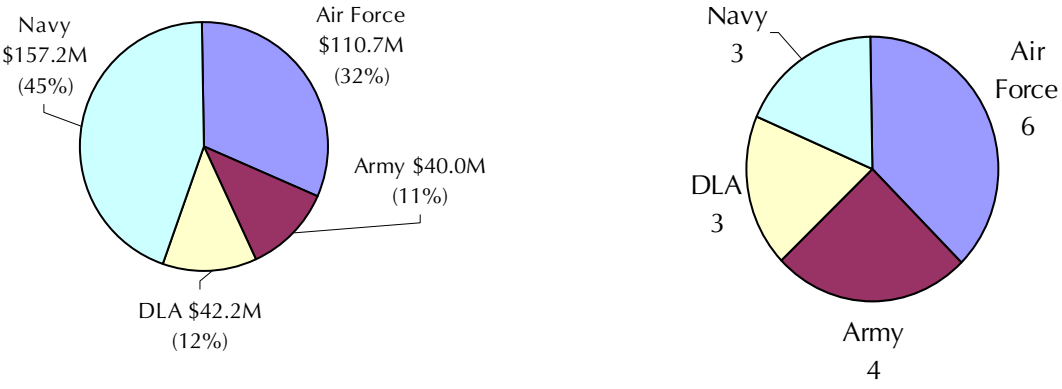
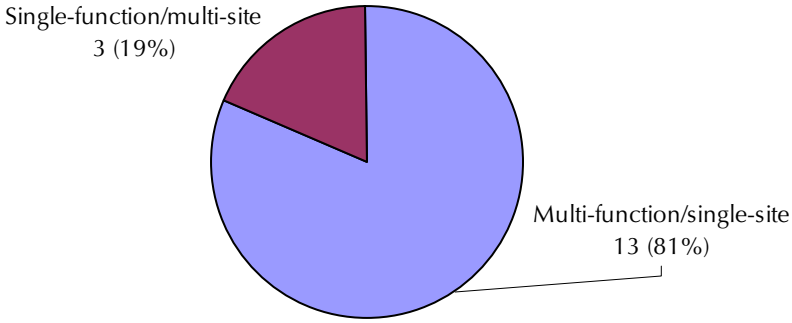


Figure 5. Distribution of the type of competition



Savings from large, multi-function, multi-site competitions

This section provides the detailed results of our examination of the savings rates for the 16 competitions. Our analysis evaluates and compares three types of savings—expected, observed, and effective—for each competition. In addition, we analyzed CAMIS data for both single and multi-function competitions. Using these calculations, we attempt to answer the following questions:

- Did the 16 competitions we reviewed save money?
- Are the savings rates from large-scale, multi-function competitions greater than those from small, single-function competitions?
- How do the number of functions competed and the size of the competition affect potential savings?

Evaluating savings of the 16 competitions

The competitive sourcing program was initiated in order to reduce the cost of needed commercial services without sacrificing performance. Savings from the program are used to help fund modernization and improve readiness within DoD. Our prior work examining the program's cost savings as well as similar work of others indicates that overall the program saves 30 percent or more of pre-competition costs. This does not mean that every competition results in significant cost savings, but the hallmark of a successful competition is reduced cost of operations.

In this report, we use the same methodology we used in our report titled "Long-Run Cost and Performance Effects of Competitive Sourcing" to evaluate costs and savings from competition. We begin by reviewing all available documentation on cost and performance;

interviewing base personnel representing management, contracting and customers; and examining supplementary data such as audit reports and relevant workload data. From these data, we identify both the pre- and post-competition costs of providing the function or activity.

Once pre- and post-competition costs are isolated, we analyze changes in post-competition cost over time. Over the competition period, there are revisions to the original performance work statement (PWS) that reflect changes in the work environment. These changes include wage increases and fluctuations in workload, as well as changes in the type and scope of work to be performed. For example, in one traditional BOS competition, a modification of $121,000 was approved to increase the vehicle operations and maintenance workload in support of Operation Noble Eagle. In a supply and transportation competition, the government identified a new requirement for container handler support.

In most service contracts, Department of Labor (DOL) and/or Service Contract Act (SCA) prescribed wage rates can increase total contract costs. These types of changes affect the cost of providing a particular function beyond what was originally identified in the PWS. Many, and in some cases most, of these changes occur regardless of whether the decision is to contract out or to retain the function in-house. By tracking costs over time and isolating changes to the PWS, we are able to analyze the true—or effective—costs of performing the same set of functions originally identified in the PWS.

In our evaluation of the 16 competitions included in this study, we have evaluated and compared costs and savings from three perspectives: *expected, observed,* and *effective*. Using this approach allows us to separate and evaluate the costs of meeting the tasks described in the original PWS, as well as the impact on costs from changes in scope, workload, and other adjustments. This approach also allows us to assess whether long-run savings are real and sustained over time. Definitions of terms follow:

- *Expected costs* are defined as what the government expects to pay for the provision of a commercial function after a competition is completed (e.g., the price of the winning bid plus all admin-

istrative costs to the government). *Expected savings* are estimates of the difference between what the government expects to pay and the pre-competition costs of providing the function. *Expected costs* and *savings* are forecasts based on the winning contract or most efficient organization (MEO) bid at the time of competition and can be incorporated into out-year budget decisions.

- *Observed costs* are defined as what was actually spent by DoD for the provision of services. Observed costs include increases or decreases to annual costs from changes in scope, workload, wages, and one-time cost adjustments. *Observed savings* are the difference between the pre-competition annual costs to the government and the actual or observed costs of that activity after the competition was completed.

- *Effective costs* are defined as the estimated cost to DoD of providing the *same set* of services as originally identified in the cost comparison. Effective cost estimates exclude cost changes that would have occurred whether or not the activity was competed. In the BOS competition affected by Operation Noble Eagle, the *observed* costs of providing services increased by $121,000 in 2001. This increase was due to additional workload needed to support our military. This type of increase in workload, and therefore cost, would have occurred whether the necessary services were provided by the contractor or by in-house labor. Therefore, the *effective* costs for 2001 would be adjusted to remove these one-time costs. By adjusting the data to exclude workload, scope, wage, and one-time costs, effective cost estimates allow us to compare changes in cost while keeping the original scope constant. Effective savings are defined as the difference between the pre-competition annual cost to the government and the effective costs of that function after adjustments are made. Comparing *effective* and pre-competition costs provides insight into true cost growth or savings.

Effective costs are the most meaningful indication of whether an A-76 competition was successful in producing real and sustained savings because they identify the costs of providing the same scope of work over time. Measuring effective costs and savings is the most relevant

concept for policy makers to use in assessing the value of the competitive sourcing program and identifying any needed adjustments. However, it is also important to examine changes in observed costs because, historically, these are the types of costs people have looked at when examining the worth of the competitive sourcing program. Installations, in particular, focus more on *observed* costs (as compared to effective costs) because their budgets are typically based on the *expected* costs of the contract or MEO. In many cases, changes in scope and workload will significantly increase the *observed* costs with little or no budgetary relief. A detailed description of this methodology is included in appendix C.

After our evaluation of the 16 competitions, we present a comparison of the *expected* savings from BOS competitions with *expected* savings from single-function competitions. The purpose of this analysis is to determine whether BOS competitions result in greater *expected* savings than the average DoD A-76 competition.

Limitations of analysis of cost

As mentioned previously, our sample includes four competitions which resulted in the function being retained in-house. The current requirements for tracking post-competition data on personnel and cost do not provide enough detail to be included in our analysis of observed and effective cost. It is difficult, using current systems, to track the impact of changes in scope and workload to changes in on-board FTEs. There is a significant lag between a change in requirements and the date at which positions are filled or vacated. This lag time, coupled with normal attrition, clouds the ability to attach specific costs to specific changes in scope or workload.

Further, for activities where the pre-competition staffing was heavily military, delays in the federal hiring process can cause the transition to an all-civilian MEO to take longer than expected. These lags during transition can skew both observed and effective costs, making the costs of the in-house organization look artificially low. Therefore, although these "in-house" competitions are included in our analysis of expected costs, they are excluded from our analysis of observed and effective costs.

In selecting the competitions for our study, we limited our sample to those studies that had been performed between 1996 and 2000 because the competitions conducted during this time reflect the current A-76 requirements; are representative of functions in DoD's commercial activities inventory; and would likely be better documented than earlier competitions. This means, however, that of the 16 competitions we studied, 7 competitions (or 44 percent) had only one year's worth of cost data. Although this is sufficient for determining whether the PWS was written comprehensively, in specific examples it can be insufficient in evaluating the full cost. For example, significant changes can take place after the first year and be applied retroactively. Analysis based on just the first year's costs can, therefore, misrepresent the full cost of operation. Therefore, it is important to interpret the results carefully, because the savings realized to date for the 16 competitions can change by the end of the performance period.

Finally, one multi-site competition (property disposal) was excluded from our analysis of effective cost. Information on specific modifications to the contract could not be gathered centrally. Therefore, only observed and expected costs are included for this competition.

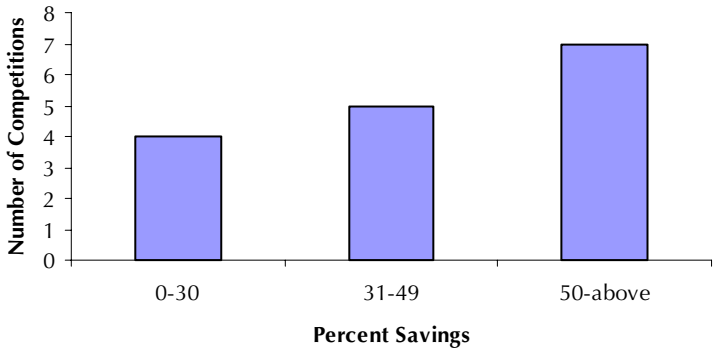
Analysis of the 16 competitions

In the following section, we present the results of our cost analysis for the 16 competitions. In total, the estimated annual baseline cost for the competitions was $350 million with expected savings of 48 percent or $168 million. Expected savings ranged from 12 to 75 percent, with seven of the competitions having an expected savings rate of 50 percent or greater (see figure 6, below). If we remove the largest competition from this group (BOS-all major functions (1)), average annual baseline costs remain over $217 million and expected savings total 46 percent. In comparison, the population of competitions—both small and large—in the Department of Defense Commercial Activities Management Information System (CAMIS) show average expected savings of 33 percent.

As mentioned above, our analysis of expected, observed, and effective savings rates is based on results of 11 competitions resulting in a

contract win (in-house and property disposal competitions are removed from the calculation). When we limit our analysis to these 11 competitions, the expected savings rate increases to 49 percent.

Figure 6. Distribution of expected savings



In examining actual or observed costs for the 11 contract wins, we found that observed savings ranged from 6 to 74 percent, with an average annual observed savings of 44 percent. Observed costs tend to be higher than expected cost because they include increased expenditures for wage increases, scope and workload changes, and other one-time cost adjustments. The observed savings rate of 44 percent can be viewed as the most conservative savings rate, reflecting all actual costs incurred by the government during the contract period, regardless of whether the original scope of work has increased.Table 2 presents the expected, observed, and effective savings rates for the16 competitions we examined.

Although observed costs reflect the full outlay of funds associated with a particular contract, effective costs reflect the true costs of the providing the original set of functions outlined in the PWS. Changes to scope and workload, which would have occurred regardless of whether the function was provided via an in-house or contract workforce, are removed from the cost analysis. Our analysis found that the effective savings for the group of 11 (the contract wins minus the DLA property disposal competition) ranged from 11 to 75 percent with an average of 49 percent (see figure 7). Weighting the numbers to determine the savings per dollar competed yields an effective savings rate of 58 percent (see figure 8) for the 11 competitions resulting in contractor provision of services.

Table 2. Savings rates for the 16 competitions

Function	Service	Average annual baseline cost	Expected savings	Observed savings	Effective savings
BOS—transportation, supply, & material maint.	Army	$13,460,313	21%	15%	19%
BOS—all major functions (1)	Navy	$132,405,406	70%	70%	70%
Range operations	Navy	$11,175,128	68%		
Target operations	Navy	$13,647,901	38%	32%	36%
BOS—all major functions (2)	Air Force	$48,910,684	47%	41%	45%
BOS—supply & transportation	Air Force	$21,546,870	75%	74%	75%
Supply (1)	DLA	$8,478,038	67%	60%	67%
Supply (2)	DLA	$28,940,363	68%	67%	67%
Facilities operation and maintenance	Army	$5,164,176	30%		
Information management	Army	$7,632,321	26%		
BOS—all major functions (3)	Air Force	$9,645,797	12%	6%	11%
BOS—all major functions (4)	Air Force	$9,438,976	31%	27%	33%
Communications	Air Force	$11,517,424	50%	37%	50%
Property disposal	DLA	$4,794,521	33%	43%	
Technical training	Air Force	$9,603,061	66%		
BOS—all major functions (5)	Army	$13,719,851	65%	59%	65%
Total:		$350,080,829	48%	44%	49%

Grouping the 11 competitions by range of savings, we found that the largest number of competitions had effective savings of 50 percent or greater. In addition, in terms of the size of the competition, the largest competitions also generated the greatest savings. For those competitions that saved 50 percent or more of pre-competition costs, the average annual baseline cost was over $36 million, versus roughly $11.5 million for those competitions that saved 30 percent or less. Figure 9 summarizes the distribution of effective savings by number of competitions, and figure 10 groups them by dollar value.

In our evaluation of expected savings, the results are the same—that is, the larger competitions in our sample showed greater "expected" savings. This finding is consistent with our past research which has found that expected savings increase with the size of the competition.

Figure 7. Savings rates for 11 competitions

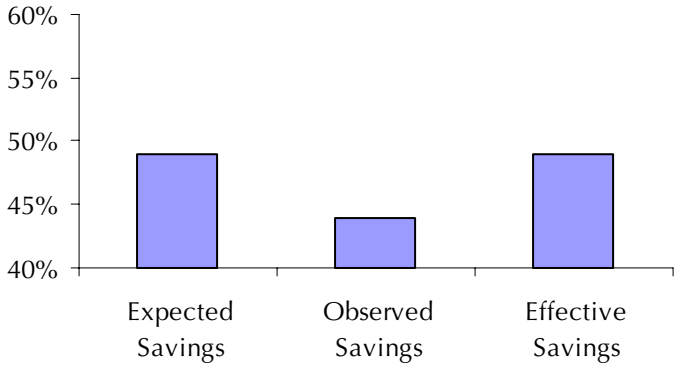


Figure 8. Savings rates for 11 competitions (weighted)

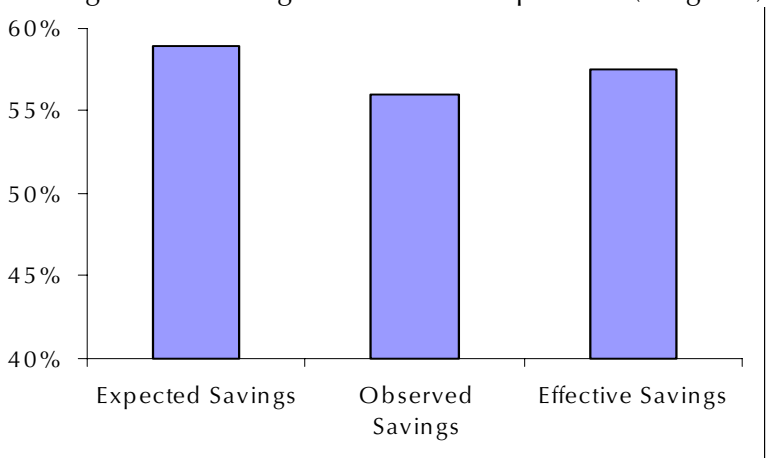


Figure 9. Distribution of effective savings by number of competitions (11 competitions)

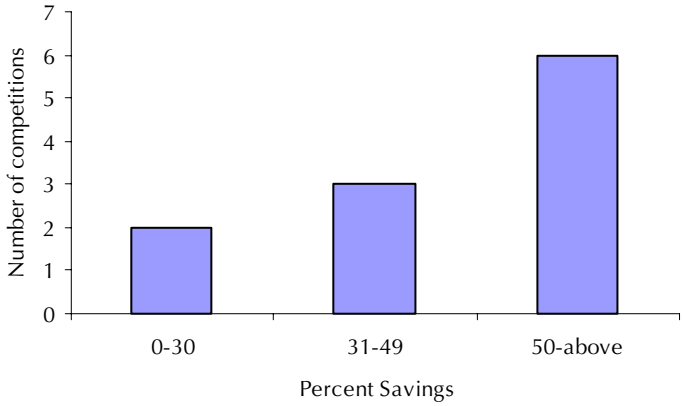
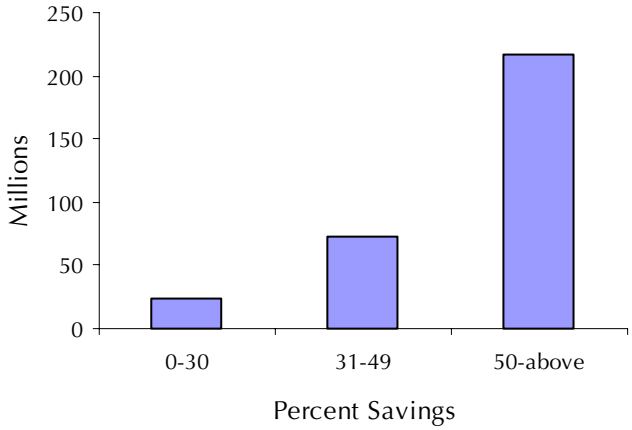


Figure 10. Distribution of effective savings by dollar value (11competitions)



Comparison to the population of DoD competitions

To determine whether the 48-percent average expected savings for the 16 competitions was consistent with the expected savings for all multiple-function competitions, we also examined the expected savings rates for all multiple-function competitions conducted by DoD between 1978 and January 2001, as recorded in CAMIS.[5] We then compared their savings rates with those of single-function competitions.

The question facing competitive sourcing decision-makers is whether it is more beneficial to perform multiple small, single-function competitions or combine them into one large multiple-function competition. The results of our analysis indicate that a positive

5. CAMIS is the Commercial Activities Management Information System. It records, among other data, the expected savings for every competition DoD has completed since the inception of the competitive sourcing program. There were 1,729 competitions of installation services, other non-manufacturing operations, and maintenance of real property that were conducted between 1978 and 2001. These competitions represent about 74 percent of all competitions conducted during that time frame.

relationship exists between competition size and potential competition savings, yet a negative relationship exists between the number of functions in a competition and expected savings. The benefits associated with increasing competition size, however, outweigh the costs from including additional functions. Therefore, in a real-world setting where the primary method for increasing competition size is to combine several functions into a large, multiple-function study, where practicable, decision-makers should use this approach.

Multi-function versus single-function

The DoD Competitive Sourcing Program does not have a uniform definition of what constitutes a multiple-function study.[6] In this analysis, we relied on several variables to identify the effects of packaging competitions into single-function competitions or multi-function ones. We used a series of regression models that include these variables to measure the effects of combining functions and competing activities across multiple sites. We categorized studies into one of three categories: 1)competitions with only one function code, 2) competitions with multiple function codes, or 3) a whole base competition—designated with a function code of P100 in the CAMIS files. We grouped studies in this manner to examine the effects of combining competitions without making a subjective determination as to whether a competition was indeed a single- or multiple-function competition.[7] [8] Table 3 provides some basic characteristics for each of these three categories.

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6. A recent change to the required fields in CAMIS requires a study to be identified as either a single-function or multiple-function competition. However, a standard definition still has not been established, leaving it up to the claimants or the individual installations to determine the characteristics of a multiple function competition. Because multiple-function studies are allowed more time to be completed, the incentive is to classify a competition as being a multiple-function competition whenever possible.

7. Determining, for example, whether several function codes that describe what is in effect a only one activity, such as motor vehicle operations and maintenance, should be classified as a single- or multiple-function competition.

8. Designating a competition as being either a single- or multiple-function competition determines the amount of time allowed for completion under OMB circular A-76. Under current guidelines, single-function studies are allowed 24 months while multiple-function competitions are given 48 months to reach final decision.

Table 3. Competition characteristics by competition type

Type[a]	Competitions.	Mean	Median	Percentage savings
Single	1,436	26	14	32%
Multiple	321	85	40	34%
Multiple-P	35	230	130	32%
Total	1,792	40	16	32%

a. Single—one function code; Multiple—more than one function code; Multiple—P–Function code P100.

Most of the studies—about 80 percent—involved competing only one function code. Competitions with multiple function codes make up about 18 percent of the sample whereas only about 2 percent of the studies were designated by function code P100. The estimated percentage savings[9] increases slightly for multiple function studies, but this does not control for other competition characteristics that could affect potential savings. In other words, factors such as the size of the competition or the composition of the billets included could be driving this observed difference.

Results

The number of positions and the composition of the activity competed affect the potential savings that can be achieved. The size of a competition can be increased in one or a combination of three ways. The number of positions included in a competition can be increased by adding additional positions that perform the same function as those being competed in a separate part of the base,[10] adding additional functions, and competing the activity across multiple locations. The motivation for increasing the size of a competition is that evidence suggests increasing size leads to additional savings from potential economies of scope or scale. However, adding additional

9. In our discussion of percentage savings, we are referring to "expected" savings based on information at the time of study completion.

10. For example, including all billets in warehouse operations rather than including only the billets in the warehouse function of the activity being studied.

functions and/or locations increases the complexity of the competition. We would expect, holding all else constant, that making a competition more complex would decrease the potential savings. The question facing decision-makers for DoD's commercial activities program is whether it is better to compete a number of small activities or to combine them into one large competition.

We estimated a Tobit regression model to quantify the effects of packaging and size on overall competition savings**.** The relevant portion is reproduced in this section; a description of the model and a complete listing of the estimation results is provided in appendix B.

Size

Table 4 lists the regression coefficients for the variables describing the size of the competition. The coefficients are statistically significant and indicate that, holding all else constant, increasing the size of a competition does increase the potential savings. This reaffirms previous findings that found a positive relationship between competition size and potential savings. The effect of increasing size on competition savings is greater for smaller competitions than it is for larger competitions. Figure 11 shows the predicted competition savings based on the size of the study.

Table 4. Regression coefficients for size-of-competition variables

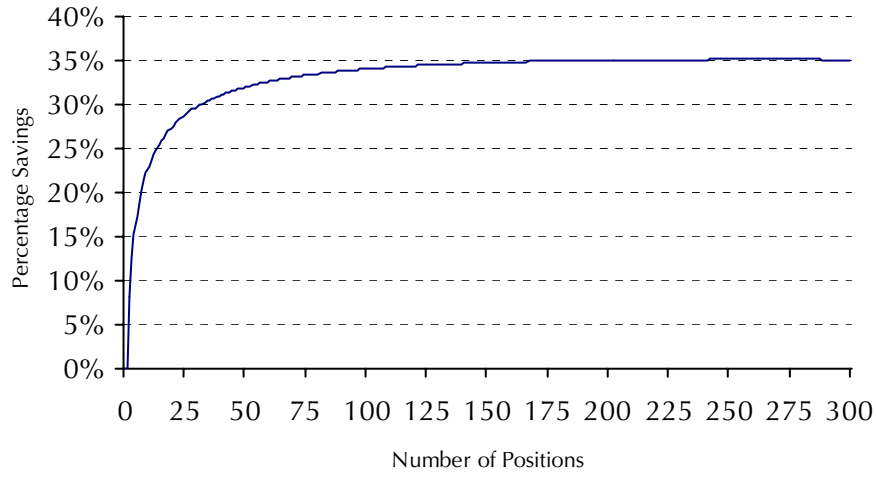
Variable	Coefficient	Standard error	P-value
LNBS	0.128	0.018	0.00
LNBS2	-0.012	0.003	0.00

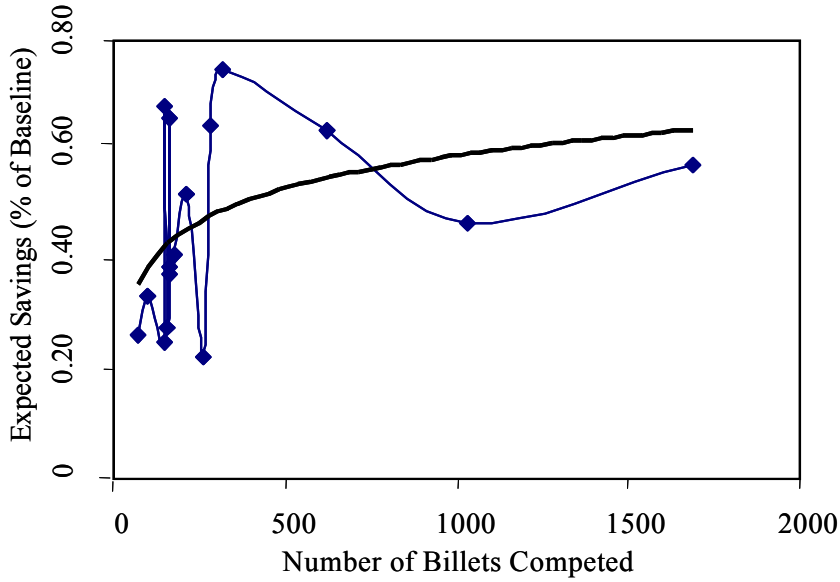
The predicted savings based on the estimated coefficients shows a significant slowing in the additional savings of each position added starting at about 150 positions.

Impact of multi-function

Increasing the number of functions and/or sites in a study can lead to a competition covering a larger number of billets—which could

Figure 11. Expected savings and size of study





increase savings—but it also increases the complexity of the competition—which could reduce savings. We included indicator variables in the Tobit regression model for multiple-function competitions as defined above. The relevant portion of the regression model is reproduced in table 5. Both coefficients are negative and statistically significant which indicates that both reduce the potential savings from competition. The values of the coefficients indicate that, at the

mean, multiple-function studies and studies designated as CA function code P100 realized about 2.7 percentage points and 4.5 percentage points lower savings than single-function competitions, respectively.[11] This result is holding all other variables constant, including size. In a real-world setting, the size of the competition would increase with the number of functions added. Based on the results in the previous section, the size of a competition would need to increase by 10 positions and 25 positions to offset the negative effect on savings from combining functions in multi-function and P100 competitions, respectively. The mean value of competition size is 17 positions. However, this result is based on the categories used in this analysis; caution should be used when extrapolating the estimates beyond these definitions. These broad categories cannot be used to decompose the effect of various combinations of functions on potential competition savings. We expect that economies of scale or scope would be less likely when combining functions that are unrelated than when combining functions that are related. For example, fewer economies would be available when combining intermediate aircraft (function code J501) with family services (function code G904) than when combining it with intermediate maintenance of aircraft engines (function code J502).

Table 5. Regression coefficients for complexity-of-competition variables

Variable	Coefficient	Standard error	P-value
UNIQ_STS	-0.008	0.011	0.46
BOS2	-0.033	0.015	0.03
BOS3	-0.054	0.027	0.04

11. We estimated several additional regressions in an attempt to isolate the effects of each additional function and function group on potential competition savings, but the results were similar to those shown in table 5.

Impact of multi-site

The coefficient representing the number of different sites included in each study is statistically insignificant. This variable tracks the number of distinct UICs included in the study but, unfortunately, we do not know the proximity of the sites. We would expect a site located 20 miles away to face additional logistical problems that sites located on the other side of the installation would not. The lack of statistical significance could be caused by the low number of competitions held across multiple locations and the correlation between this variable and the definitions of the multiple-function categories. Only about 6 percent of the multiple-function competitions and 1 percent of single-function competitions were competed across multiple sites.

Post-competition performance of large multi-function, multi-site competitions

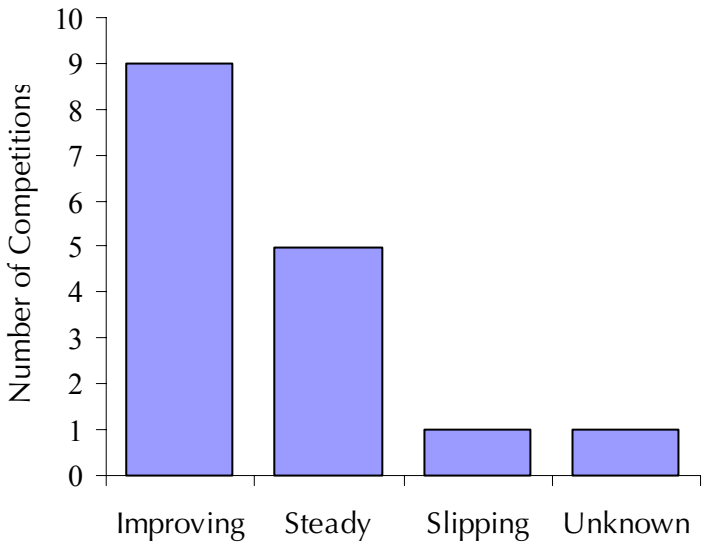
Sustained quality performance is critical to safeguard DoD's assets and satisfy mission requirements. A competition cannot be deemed a success if savings are achieved, but performance suffers commensurately. Although there might be an initial drop in performance as the new provider becomes familiar with the performance requirements, he or she should be at full operational performance by the end of the agreed-upon transition period.

Based on the interviews we conducted, customers, managers, and contracting personnel thought that, in general, the outlook for performance in the future was either improving or steady. In only one competition did they believe that performance was likely to slip. And in one competition, both the future requirements and the relationship between the contractor and the installation were being negotiated, and installation officials were uncomfortable speculating on performance. Because of the lack of data in this case, we have excluded it from the overall evaluation of performance. However, we have included a separate discussion of this competition in appendix D. Figure 12 summarizes the results of our interviews.

Overall performance

We interviewed management, contracting personnel, and customers on their perception of post-competition performance. They were asked a series of questions related to performance of the tasks defined in the PWS and asked to rank their perceptions on a scale of one (dissatisfied with performance) to five (very satisfied with performance). We also asked them to rank their perceptions of performance prior to competition in order to provide a point of comparison.

Figure 12. Outlook for the quality of performance in the future



In nearly all of these cases, the personnel we interviewed believed that overall performance after competition was neutral (meeting minimum standards defined in the PWS) to satisfactory. For this group, the average satisfaction level was 3.6. Table 6 illustrates the post-competition performance rating by competition and by personnel type.

Figure 13. Comparison of pre- and post-competition performance rating

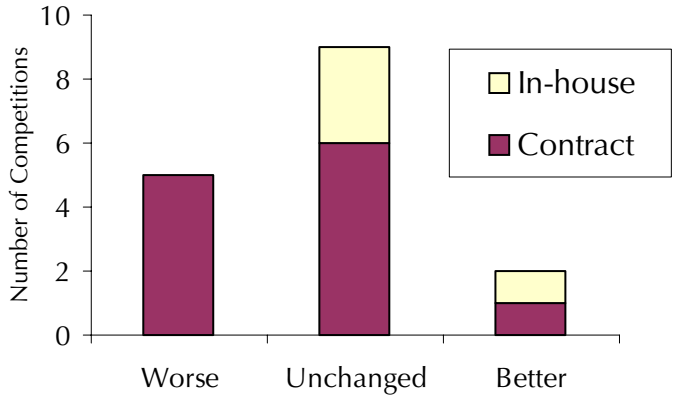


Table 6. Post-competition performance rating by competition and by personnel type

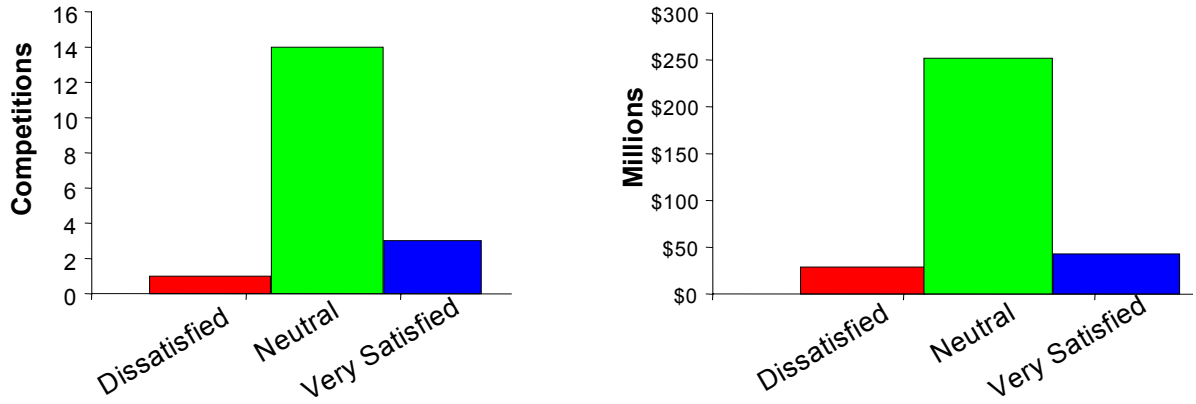
	Competitions	Customer	Contracting Officers	Functional Managers	Overall
1	BOS—transportation, supply, & material maint.	●		●	●
2	BOS—all major functions (1)		●	●	●
3	Range operations	●			●
4	Target operations	●		●	●
5	BOS—all major functions (2)	●	◍	◍	●
6	BOS—supply & transportation			◍	◍
7	Supply (1)	●	◍	●	●
8	Supply (2)	◍	◍	●	◍
9	Facilities operation and maintenance	●		◍	●
10	Information management	●		●	●
11	BOS—all major functions (3)	●	●	●	●
12	BOS—all major functions (4)	●	◍	●	●
13	Communications	◍	◍	◍	◍
14	Property disposal		◍	●	●
15	Technical training			◍	◍
16	BOS—all major functions (5)	●	●	●	●
	Overall Average	●	●	●	●

◍ (Blue) Very satisfied with performance (4.0 – 5.0)
● (Green) Neutral/satisfied with performance (2.6 – 3.9)
◍ (Red) Dissatisfied with performance (1.0 – 2.5)

In two competitions, the personnel we interviewed found that post-competition was generally better than performance prior to competition. In five competitions, personnel found that post-performance was worse. However, four of these competitions were in their first or second year of performance, indicating performance problems that may be transitional. Three of the four competitions retained in-house showed pre- and post-competition performance essentially remaining unchanged. Figure 13 provides a comparison of pre- and post-competition performance ratings. remaining unchanged. The 12 competitions with neutral to satisfactory ratings accounted for 80 percent of the total dollar value of the competitions in this analysis. Three competitions received an overall satisfaction rating above 4.0, indicating that personnel were very satisfied with the provisions of services. These three highest-rated competitions accounted for 12 percent of the examined competitions' total dollar value.

Figure 14 shows the distribution of the competitions' performance by number and cost. The one competition where interviewees indicated they were dissatisfied with performance was a supply-function competition. It accounted for $28.9 million (8 percent) of the $350 million in total pre-competition costs for services of the competitions we examined.

Figure 14. Distribution of competition performance by number and cost



In the cases where installation personnel were dissatisfied with the level of performance, the reasons they gave for poor performance included:

- The new provider was unable to hire sufficient numbers of trained personnel.
- Subcontractors had little prior experience and poor management.
- Preventive maintenance was not a high enough priority with the new provider.
- Complaints were difficult to resolve and required extensive debate of the requirements in the PWS.

Performance over time

In our previous research on competitive sourcing, we found that transition issues tended to affect performance during the first year but that overall performance was viewed as satisfactory in subsequent years. Our findings on the performance of the 16 large, multi-function or multi-site competitions are consistent with these earlier findings. Seven of the eight competitions where personnel rated performance below pre-competition levels were in their first or second year of performance. Further, as discussed in the beginning of this section on overall performance, in all but one competition performance is improving or expected to improve. These findings on performance indicate that the same types of performance challenges, during transition, affect both large- and small-scale competitions.

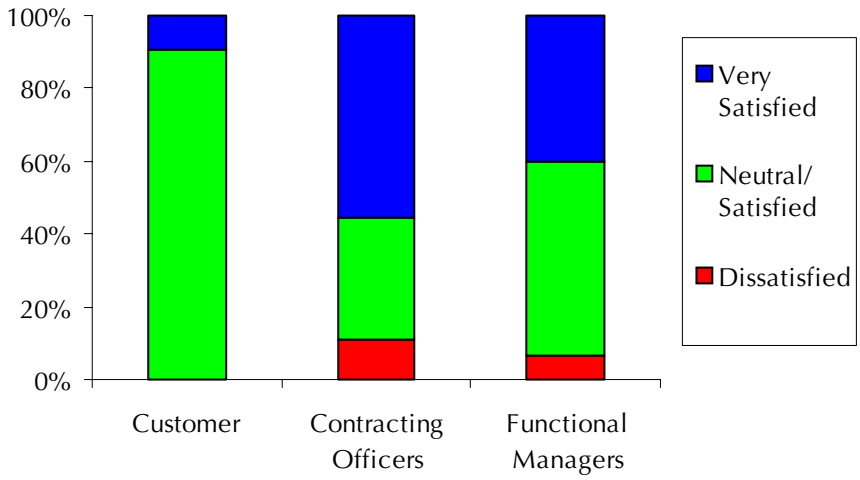
Performance by type of personnel interviewed

When we compared our interviewees' view of performance by the type of personnel interviewed, we found that the customers rated performance lower than did contracting personnel or functional managers. This is opposite to our findings in our report on the long-run costs and performance of A-76 competitions. In the earlier report, we found that customers generally rated performance higher than did contracting personnel or functional managers. Figure 15 illustrates our findings.

With these 15 competitions, we found that customers rated post-competition performance slightly below pre-competition performance and with lower values as compared to contracting personnel and functional managers. Because customers generally focus on the timeliness and quality of service that they receive, some of this differential may be explained by the fact that some transition issues had not been resolved at the time of this analysis.

Although some of the differential between customers, functional managers, and contracting officers may be explained by transition issues, the competition with the greatest difference in how customers rated performance, however, was an aircraft maintenance competition in its third year of contract performance. In this example, contracting and functional managers were extremely satisfied with

Figure 15. Performance by type of personnel interviewed



the contractor's performance. The customers, who were military pilots, expressed a strong preference for the pre-competition performance by military personnel. We also observed the same preference during our examination of the technical training competition and an aircraft maintenance function in our previous report. In all three competitions, the customers, predominantly military, believed that military personnel were more conscientious than either civilian or contract employees.

In general, both contract personnel—who were concerned with both performance requirements and how well contractors meet administrative and procedural requirements—and functional managers and quality assurance personnel—who are knowledgeable about performance requirements both before and after competition—rated post-competition performance as equivalent to pre-competition performance. The contract personnel rated post-competition performance slightly higher than pre-competition performance, whereas functional managers ranked it in reverse. Interestingly, their perception of post-competition performance was about the same. It was their views on pre-competition performance that was the most different. Functional managers believed that pre-competition performance was higher than did contracting personnel.

Length of the process

DoD is required by law to complete[12] its competitions within certain time limits. One of the questions we were asked to address was whether a single BOS competition can be completed more quickly than if the component functions and/or sites were each competed separately. We found that the 16 competitions:

- Experienced bottlenecks during the process for a variety of reasons including poor coordination between the affected parties, small business considerations, and acts of nature
- Took the same or less time to compete than the population of A-76 competitions DoD completed during roughly the same time period
- Were well within the statutory time limit imposed on DoD competition
- Showed no correlation between competition size and completion time, but rather seemed to be primarily affected by the degree to which the competition manager drove the competition.

Bottlenecks to the process

Delays are common during the course of a competition. Although some delays can be anticipated and actions taken to avoid them, others are unavoidable. Half of the competitions we examined experienced little or no delay. One competition experienced a 4-month delay because of a severe storm of hurricane or typhoon proportions.

12. Statute has required single-function competitions to be completed within 24 months and multi-function competitions to be completed within 48 months. Recent changes in A-76 will shorten time lines to a maximum of 18 months.

Four competitions, or 25 percent, experienced delays of 6 months or more. Of those with delays, the most common reason was problems in coordinating the competition between the headquarters organizations and installations.

Some of the coordination problems were due to differing expectations and/or incentives between the various groups. For example, in one competition, there were disagreements between the A-76 team and the functional managers on the level of specificity and degree of prescription to use in the PWS. In another competition, there was difficulty in getting one of the two installations to perform its assigned role. In a third competition, multiple headquarters reviews and coordination of several ongoing competitions delayed the progress of individual competitions.

Four competitions were delayed while the respective teams negotiated with representatives of the Small Business Administration (SBA). These negotiations primarily addressed whether existing small business contracts would be included in the competition's scope, or to identify the level of small business subcontracting goals that would be included if the competition resulted in a contract award. Generally, the competition managers agreed to exclude existing contracts from the scope of their competitions. In one competition, the contracting officer wanted to issue an unrestricted solicitation, but SBA wanted it restricted to section 8a firms. The solicitation was finally issued as a restricted competition. Installation officials said that the decision to restrict the solicitation to small businesses limited the number of functions they could include in the PWS and the number of firms that would have bid. They said that the negotiations to reach the compromise delayed the competition by 4 or 5 months.

16 competitions versus DoD competitions

To address the question of whether a multi-function competition can be completed more quickly than if the component functions and/or sites were each competed separately, we compared the completion times of our sample of 16 competitions with the population of DoD competitions completed during the same time frame, 1995 to 2001,

as well as those completed from 1978 to 1994. The population of competitions included both single- and multi-function.

Table 7. Median competition completion times[a]

Competitions	Number completed	Median months to completion
16 competitions	16	25
Before 1995	2,043	27
After 1995	287	26
Total 1978-2001	2,330	27

a. Excludes direct conversion, streamlined cost comparison, in-progress and canceled competitions.

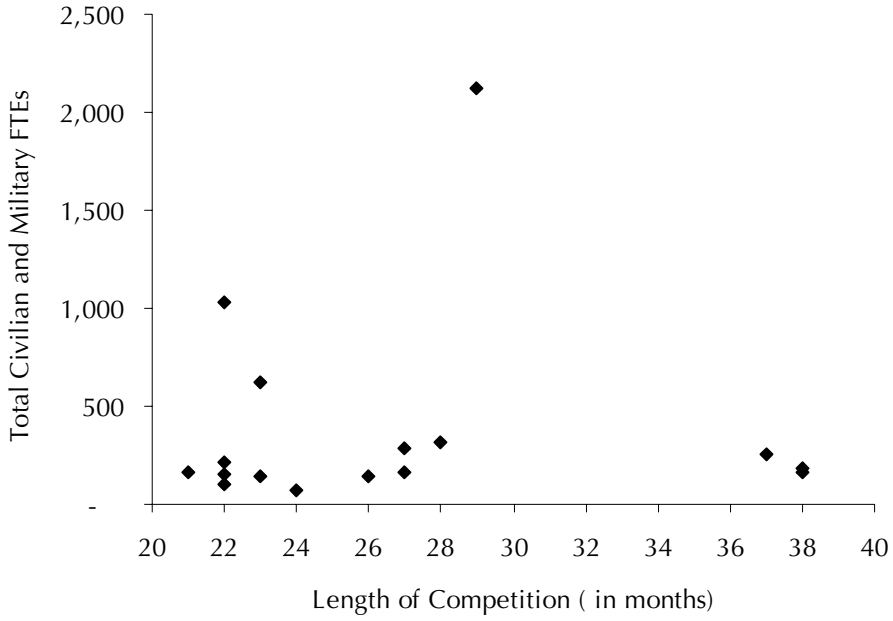
As we see in table 7, the 16 competitions did not appear to take any longer than the other competitions completed during the same time period, and the competitions competed prior to 1995. All 16 were completed well within their statutory limit of 48 months. Half the competitions even fell within the 24-month period required for single- function competitions.

We also analyzed the completion times of other multi-function and single-function competitions with much the same results. Multi-function competitions took an average of 27.9 months to complete, whereas single-function competitions took an average of 22.4 months. The average size of these competitions was 138 FTEs and 33.9 FTEs, respectively.

Correlation between completion times and size and other factors

There appears to be no correlation between the size of the 16 BOS competitions and their durations. For example, the two largest competitions, each with more than 1,000 FTEs, took about 29 months to complete whereas one of the smaller competitions with about 170 FTEs took 38 months. Nor does there appear to be any correlation between duration and whether the competition is multi-function or multi-site. Figure 16 presents these results.

Figure 16. Size (total FTEs) versus length of competition



However, the completion times did seem to be affected by the leadership of the competition manager and diligence of the A-76 team. For example, the competition manager for the largest competition we examined actively managed the competition. A centrally managed competition, it was originally scheduled for completion within 12 months. However, a typhoon, lengthy negotiations with SBA, and the need to significantly revise the in-house proposal delayed its competition. Although each of these bottlenecks caused delays of 4 to 6 months, the competition manager and the work of those involved were able to keep the delays as short as possible and to the mitigate their effect on the overall schedule. They kept the competition moving so that the competition was completed in 28 months.

Similarly, a smaller, installation-managed competition was beset with disagreements between the PWS team, the contracting organization, and the functional managers. In addition, the initial draft PWS included existing contracts within its scope which were later

removed, requiring significant revisions to the PWS. The representatives from the functions wanted the PWS to be very detailed and prescriptive, and their initial draft was not reflective of the work being competed. Representatives from the contracting organization, on the other hand, wanted a performance-based document. Similar problems existed within the MEO team. The competition manager from an independent organization resolved these problems by bringing in technical people with a business perspective to redraft the PWS and removed the co-chair of the MEO team, a functional representative. The competition was completed in 22 months, 4 months behind its original 18-month schedule.

In contrast, an installation-managed medium-sized BOS competition took 37 months to complete. The competition encountered problems such as conflicting headquarters guidance, SBA negotiations, independent review certification, and support contractor availability added from 15 to 20 percent additional time. For example, the only support contractor with A-76 experience that the installation considered was not on the headquarters list of contractors for which the headquarters paid. It took the installation additional time to get headquarters' agreement to fund the contractor. In addition, several installation officials had the expectation that the contractor was to "help the in-house win" and were disappointed in his performance as a consequence. The largest problem with this type of management model was that the government personnel in charge of the process itself had little to no experience with A-76 competitions. At each point in the process they were "re-inventing the wheel." Table 8 presents the duration and management type for the 16 competitions.

Table 8. Duration and management type for the 16 competitions

Function	Service/ agency	Size (FTE)	Duration (months)	Type of management
BOS—transportation, supply, & material maint.	Army	362	37	Installation
BOS—all major functions (1)	Navy	2,118	28	HQ
Range operations	Navy	147	26	Installation
Target operations	Navy	160	38	Installation
BOS—all major functions (2)	Air Force	1,034	28	HQ mgt/Installation perf.
BOS—supply & transportation	Air Force	317	22	HQ mgt/Installation perf.
Supply (1)	DLA	166	21	HQ
Supply (2)	DLA	552	23	HQ
Facilities operation and maintenance	Army	340	24	Installation
Information management	Army	87	23	Installation
BOS—all major functions (3)	Air Force	113	27	HQ
BOS—all major functions (4)	Air Force	172	38	HQ
Communications	Air Force	211	22	Installation
Property disposal	DLA	100	22	HQ
Technical training	Air Force	157	22	HQ mgt/Installation perf.
BOS—all major functions (5)	Army	284	27	Installation

Advantages and disadvantages of multi-function competitions

Results of interviews

During our interviews with management, functional, and contracting officials, we tried to ascertain whether, in their view, large, multi-function or multi-site competitions offered any unique advantages or disadvantages. For the most part, they said that these types of competitions offered a number of distinct advantages and few disadvantages.

Advantages

Most of officials we interviewed believed that large multi-function/site competitions provided more flexibility for innovation and greater savings; a smaller in-house residual organization and lower overhead; clear command and control accountability; and faster, less costly competitions. One of the principal advantages they cited was that a single organization with responsibility for everything was more efficient than having several organizations share responsibility. The idea of having "one belly-button to push" meant that should problems arise, or if changes needed to be made, there was one responsible party with whom to communicate. With multiple organizations, the need for coordination would increase along with the likelihood of bottlenecks.

Another advantage to running multi-function competitions is to potentially lessen the impact on employees. If each function or site is competed separately, the process would have taken longer, resulted in duplicate efforts, and been a greater hardship on their employees. Competing each function separately can result in cascading (reduction in force) (RIFs) with employees who have just weathered the stress of one competition finding themselves in a new position about

to be competed. Another approach is to run competitions concurrently; this, however, requires extensive competitive sourcing staffing.

Interviews with contractors provided insight into other advantages. Larger, in many cases multi-function, competitions are of greater interest to contractors than small competitions. The significant cost associated with preparing and submitting a bid and proposal makes smaller competitions less attractive. Fostering greater interest from the private sector promotes competition and therefore increased savings to the government and the taxpayer. Contractors also indicated that multi-function competitions provide opportunities for cross-utilization of their labor force, particularly to meet surges in demand in a specific functional area. Under this business model, the use of a streamlined labor force can lead to additional cost savings that are not available under a single-function study.

Many of these advantages have much to do with the approach used in the development of the PWS. For example, in one multi-site competition, officials said that they achieved only minor economies of scale because separate work statements were developed at each site and combined together. As a consequence, both the MEO and the private competitors were restricted in their approaches to one that mirrored the existing process. Similarly, they felt that little time was saved in conducting the competition, and that the approach had little impact on improving quality of service or how the function was monitored.

In another competition, officials said that whereas a single competition minimized the adverse impact on the employees, they felt that the use of multiple awards negated the economies of scale that could have been achieved if the award had been made to a single contractor. Officials for several competitions also said that a series of smaller competitions may have attracted specialists in each field that could result in better performance.

Disadvantages

The officials we interviewed cited few obstacles to large multi-function or multi-site competitions. The one significant drawback mentioned is the increased risk of non-performance in a multi-function

and/or multi-site competition. Through the development of complete packaging, where all related functions are provided by one contractor or the MEO, non-performance can have a much greater impact on mission. Conversely, if only a portion of a set of related functions are competed, in the event of non-performance, personnel can be made available to mitigate performance problems. Multi-function competitions may also increase the need for coordination between other functions and can limit opportunities for small business as prime contractors. In addition, although the fixed costs associated with contracting officers and project managers may remain stable with larger contracts, there may not be economies of scale associated with Quality Assurance Evaluators.

Packaging

Attributes of successful packaging

Effective packaging is the critical first step in maximizing competition. A competition package can consist of a single function at a single location, multiple functions at a single location, or single or multiple functions at multiple locations. Similarly, a package can consist of similar or "like" functions or of dissimilar of "unlike" functions.

To package effectively, the individual(s) making the decision need to analyze a wide variety of factors. These factors typically include:

- Mission goals and targets
- Promoting competition
- Structure and composition of the private sector market
- Industry best practices
- Relevant labor and economic conditions
- Locations with the same or similar functions
- Structure and composition of the current government organization and workforce
- Existing contracts.

Overall, packaging can be considered successful if it promotes rather than inhibits competition, fosters the efficient provision of services, and encourages good performance. Packages should group functions together consistent with good business practices, ensuring that unlike or fragmented functions do not reduce or inhibit competition.

Analysis of the 16 competitions

Much of the focus of our interviews with senior leadership, functional managers, and members of each of the 16 A-76 teams was on the reasons, or drivers, for selecting a particular set of functions for competition. Our intention was to understand the background, research, and environment behind each competition package. This section provides the results of these interviews.

Decision driver: meeting targets

The most common driver or reason for selecting a particular set of functions or sites in a competition is the need to meet the FTE goals that were established in the Defense Quadrennial Review (DQR). In half the competitions we reviewed, the officials said that DQR goals influenced which functions were selected for competition. In one case, the functions were selected because they were the only ones that, when added together, met FTE goals. In others, however, the goals served to force the officials to examine all their commercial functions and begin the packaging process.

Decision driver: synergies from related functions

The second most common factor in the packaging decision is the desire to take advantage of the synergies that can occur by packaging similar, or related, functions together. To the extent that these synergies are achieved, the functions can be provided more effectively at a lower cost, regardless of whether the competition results in contract or in-house performance. One example of this type of packaging is in the supply and transportation area. In one supply competition example, warehousing was included in the competition package in order to give the resulting in-house or contract organization the ability to better integrate warehousing with shipping and receiving.

In a second example, one headquarters organization decided to compete all the logistic functions except outbound transportation as a single competition because the functions were so closely related. Officials we interviewed said that competing the functions separately would have taken longer, resulted in duplicate efforts, and been a greater hardship on the employees. Outbound transportation was

excluded because it was already provided by firms such as FedEx through GSA schedule contracts. These schedule contracts provide the government with an outbound transportation infrastructure. In addition, some oversight responsibilities such as those of the radiation protection officer, accountable property officer, and personal property officer, were excluded because it was thought that these functions were inherently governmental.

Central- or headquarters-level organizations were more likely to take this factor into consideration as compared to installation-managed competitions when making their packaging decisions. In four competitions, the headquarters competition managers said that they consolidated all similar functions at each location to have an integrated approach to their competitions, in order to reduce competition times and cost and take advantage of lessons learned from earlier competitions.

Decision driver: meeting mission requirements

Another primary factor in management decisions on packaging is the impact of a particular package on the mission of the organization. In four competitions, decision officials packaged their competitions in order to fit with their long-term mission goals or to maintain mission capability at less cost.

Decision driver: mitigating risk

One of the greatest concerns of a public manager entering into an A-76 competition is contractor non-performance. The larger the competition, and the more the functions included in the package, the greater the impact on the mission in the case of poor performance. Managers must therefore balance the efficiencies and synergies associated with large multi-function or multi-site packages with the risk of potential non-performance by a contractor or an MEO. In three of the competitions included in this study, larger, multi-site competitions on a regional or national basis were explicitly rejected because headquarters officials believed that without prior experience in public-private competitions, the management risk would be too great.

Decision factor: evaluating labor markets

None of the 16 competitions included in this analysis incorporated a full labor market assessment into their packaging decisions. By understanding the labor market, better predictions can be made as to the ability of contractors to hire the in-house workforce, the ability of an MEO with a heavy pre-competition military presence to hire civilians to staff up to required levels, and the overall availability and accessibility to qualified personnel in the regional area.

Most contractors indicated that one key to the successful transition from in-house to contract is the capacity of the contractor to hire significant portions of the in-house workforce. It is therefore, in both the government's and the contractor's interest to accurately estimate the number of in-house personnel interested in securing employment with the contractor, if the competition results in a decision to contract. Employee age and length of public service play an important role in whether contractors will be able to hire large portions of the in-house workforce. Employees in mid-career, but under the old, non-portable, retirement system, have significant incentives to take priority placement even if it means moving across the country, or even the world. In the largest of the 16 completions—BOS-all major functions (1)—the contractor expected to retain over half of the in-house workforce. However, because most of the affected employees were under the Civil Service Retirement System (CSRS) retirement system and not eligible for retirement, most employees entered the priority placement program. This left the contractor understaffed, in a remote location, with a scarce local labor pool. Performance suffered in all areas.

In another BOS competition, information technology was incorporated into the PWS. However, at the time of competition, the local and regional labor markets had a dearth of information technology professionals. In this case, the contractor had great difficulty staffing to expected levels in this area and performance suffered.

Decision factor: outsourcing in the private sector

In determining how best to package functions into a successful competition, an evaluation of how services are provided in the private

sector can provide a valuable template. Understanding what functions are traditionally out sourced by similar private sector organizations can provide insight on packaging. For example, an evaluation of the functions out sourced at large universities, and how they were packaged, can provide a first step in identifying potential candidates for competition within a Service or Defense Agency. This type of analysis was not used in the packaging decisions for the 16 competitions in our review.

Decision factor: industry analysis

As mentioned earlier in this section, one measure of successful packaging is the ability to attract private sector interest, or competition. Previous research has shown a positive correlation between savings rates and number of bidders. Therefore, it is important identify the types of firms one wants to attract, their capabilities in terms of both capacity and ability to provide specific services, and the number of firms in the marketplace.

For example, grouping facilities management and operation with an information technology function may hinder competition if few companies have experience, or access to qualified subcontractors, in both fields. Similarly, packaging custodial functions into a nationwide package may be unsuccessful if no, or few, national custodial firms exist.

Headquarters officials of only one competition examined the industry structure before making its final packaging decision. Because of its remote location, they felt that a large consolidated competition was the only way they could attract quality firms. Their review of the local business structure led them to conclude that it was incapable of delivering the needed service if the functions were competed individually. They also confirmed that there were sufficient large firms that historically bid on large packages of dissimilar functions. They did not extend their review to the current industry practices in the various functions to determine whether consolidating dissimilar functions into a single competition was common practice and would generate more efficiencies than packaging groups of similar functions into separate competitions.

Decision factor: inherently governmental decisions and packaging completeness

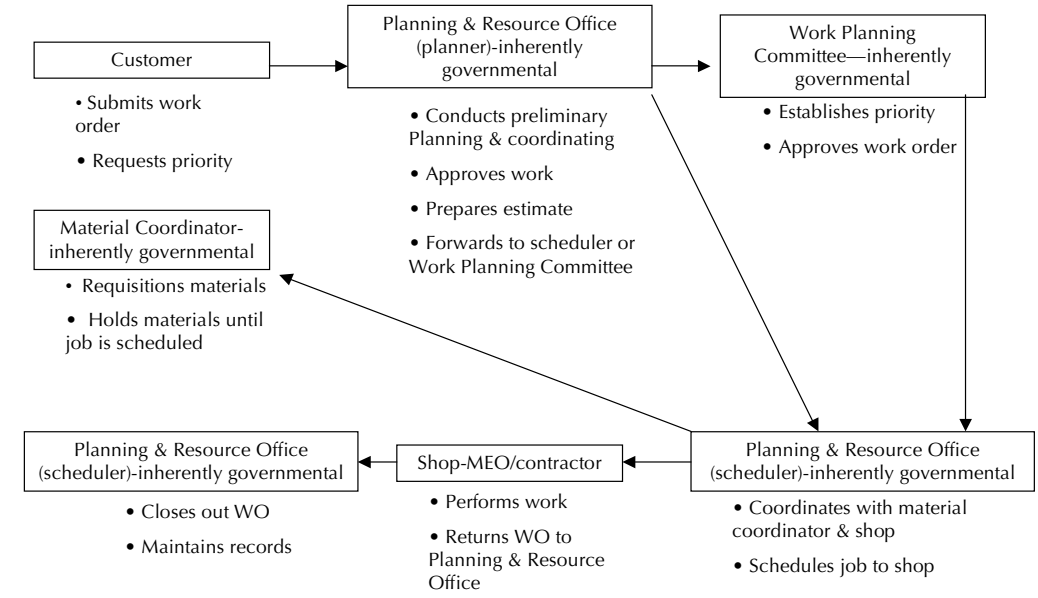
In deciding the final competition package, officials frequently reexamined all positions in the functions and identified additional positions that they believed to be inherently governmental or otherwise exempt from competition. Positions such as employees who order or approve the purchase of supplies, property accountability officials, or electricians who perform intrusion detection were considered inherently governmental and exempt from competition. In other cases, activities such as reutilization and transfer and disposal of property were considered to be core functions and were also excluded from the competition. In about half of these cases, the officials we interviewed said that these decisions would be reversed in the recompetition because they found that the functions were not inherently governmental and that interspersing them within the functions impeded work flow and made accountability more difficult.

In another competition, officials said that savings would have been increased if all the activities were included in the competition. They believed that it was difficult to clearly separate the exempted activities from the rest of the function(s) and doing so made for difficult interfaces with the rest of the operations.

These decisions frequently mean that complete functions or activities are not included in the competition. It is not uncommon for several activities within a function to be removed from competition. This can make the function more inefficient than it was prior to competition. If the decision is to retain the function in-house, extra steps have been added to the process. If the decision is to contract out, the extra steps can create bottlenecks in the process as the contractor waits for government approval to proceed or for supplies with which to complete a job. More importantly, incomplete packaging means that the contractor cannot be held accountable for the full performance of the function, and can only be judged on how well he performs specific steps in the process. It also means that the contractor cannot manage the function and make substantive improvements in the process. The contractor is reduced to being an implementor of a government process.

Figure 17 illustrates a typical situation where the contractor is accountable for work order completion but does not control work order scheduling, material coordination, or planning and estimation. In this situation, the contractor cannot be held responsible or accountable for timely job order completion because he or she cannot control the full—or complete—process. Completeness in packaging fosters innovation and promotes effective and efficient services, while promoting accountability and responsibility by the service provider.

Figure 17. Work order process



Decision factor: small business considerations

Once the overall packaging decisions were made, several other factors came into play as officials refined the final scope of the competition. By far the most important secondary consideration was the

existence of existing contracts. With very few exceptions, functions that were already being performed by contract were excluded from the competition. In one case, decision officials originally included all functions, whether or not they were contracted, in order to have a single point of accountability and increase potential synergies. However, many of the contracts had been awarded to small or disadvantaged firms, and the SBA objected to their inclusion. After about a 6-month delay in the competition, the officials agreed to exclude all small business contracts from the scope.

In another case, the officials we interviewed said that there was a 3-week delay to the competition process while they negotiated with SBA officials about whether an existing contract could be included in the competition's scope. In a third case, a contract with the prison industries was excluded from the scope because, if contracted out, the contractor could not use the existing contract. Many of the officials involved in competitions that were contracted said that subsequent recompetitions would include all relevant contracts so that there would be a single point of accountability.

Considerations of current small business contracts can be viewed similarly to the discussion of completeness in packaging for inherently governmental functions in the section above. By excluding or parceling out sections of a complete activity or process, responsibility and accountability for good performance are narrowed and opportunities for efficiencies and innovation are limited.

The packaging decision-maker

For the 16 competitions included in this analysis, final decisions on packaging were made at either the headquarters or installation level. In general, packaging decisions made by headquarters officials tended to include such factors as the organizations's mission goals and plans, the desire for an integrated approach, competing like functions, and decreasing competition times. Installation officials placed a higher priority on factors such as meeting the FTE targets assigned to them, and retaining the current organizational structure. Packaging decisions at all levels were made based on factors that were internal to the government organization. They were not based on

such factors as the structure of the private market or current economic conditions.

To promote successful packaging, the packaging decision should be made at a high enough level in the organization to ensure that it best supports the organization's overall mission and management priorities. For example, packaging decisions made by an installation may reflect the best interest of the base's mission and its priority, but may not be in the best interest of the command or Service. We have one caveat however. Headquarters-level decision-making should not be conducted without the input of the installation. By including installation-level personnel in the process, decision-makers can be provided with better information on completeness in packaging, availability of a qualified labor force, and potential synergies in selected functions.

Small business opportunities

Large-scale competitions have been criticized often because they are assumed to limit small business opportunities. It is important, therefore, to determine whether large-scale competitions reduce the number of opportunities for small business to obtain government contracts. Our analysis indicates that these opportunities are not substantially decreased with large-scale multi-function, multi-site competitions. We found that:

- Six of the 16 competitions were restricted to small businesses.
- Three additional contracts were awarded to small businesses, even though the procurement was unrestricted.
- Those contracts that were awarded to large firms had significant small business goals.

Small business as prime

As mentioned above, 6 of the 16 completions included in this study were restricted to small business. Of these six, 5 resulted in conversion to contract with one remaining in-house. Data on the population of competitions completed after 1995 also indicated that 30 percent of competitions with more than 100 FTEs were restricted with about half resulting in conversion to contract with a small business contractor as prime.

Unrestricted competitions

One common complaint from small businesses is that unrestricted competitions limit small business involvement. However, based on our analysis and discussions with the SBA, the Small and Disadvantaged Business Utilization Office (SADBU), functional managers, and both large and small contractors, it appears that this may not be the case. The reasons are as follows:

- Most unrestricted competitions have significant small business goals. For example, the largest competition we reviewed required about $15 million of the contract dollars to go to small business, and 79 percent of the subcontracts were to be awarded to small business. In addition, the prime contractor was to mentor its subcontractors and was expected to reach out to the local business community and help develop businesses.
- Using a small business as a sub-contractor, rather than as prime, can provide tremendous opportunities for small business growth. As a sub-contractor, a small business is not responsible for large bonding requirements covered by the prime and can therefore execute larger projects not previously available.
- Mentoring opportunities with large business can provide small businesses with leadership, technology, and process improvements unavailable without such partnering arrangements.
- Of the 171 unrestricted competitions completed since 1995 for which we have information on contractor size, 26 competitions or 15 percent, resulted in the prime contract being awarded to a small business. This indicates that unrestricted competitions do not create a complete barrier to entry for small business.

Transition

No matter who is selected as the new provider during the competition—the government or a contractor—there is a transition period before the new provider is fully operational. Transitions set the tone and expectations for future performance. Rocky transitions can destroy the government's and the customers' confidence and trust and can take years to overcome. Often we found that the expectation is that future performance will be poor. The new provider frequently had to perform at superior levels to create the perception that it is performing satisfactorily. Transitions involve a shift in the culture, structure, and operation of most services. They take time and effort, and major roadblocks can arise along the way. A successful competition will have a comprehensive plan to avoid the roadblocks and to proceed smoothly.

Transitions are particularly critical with large, multi-function or multi-site competitions. The importance of good performance by the service provider becomes more critical. Poor performance has a much greater impact on the installation's mission than does a small, single-function competition. Multiple functions or sites can add a level of complexity and coordination that may not exist in single-function site competitions. Therefore, it is vital that transitions for large competitions be well planned and managed by both the government and the new provider.

Of the 16 competitions we examined, 9 had smooth transitions and 7 had rocky transitions. In 4 of the 9 smooth transitions, the decision was to retain the function(s) in-house. In-house transitions were smooth, but they proceeded at a more relaxed pace than did contractor transitions. About 42 percent of the transitions to contract performance were smooth; the rest faced difficulties.

We found that transitions can be rocky if they are poorly planned and provide inadequate training and start-up time to both government

and contract employees. Rocky transitions were also characterized by poor relationships and differing expectations between the government and contractor personnel; difficulties in hiring sufficient numbers of experienced personnel; backlogged work; and incidents such as hiding or mislabeling keys to buildings and equipment. Of these factors, the following appear to be most significant in the 16 competitions studied:

- The relationship between the installation and the new provider is a key indicator of how successful the transition will be. If the competition was charged with tension and stress, it often carries over to the transition to contract. If the contractor isn't sensitive to these tensions and focuses on allaying fears of poor performance, the relationship can quickly become strained.
- For the 16 competitions, there was no correlation between the length of the transition and the size or complexity of the completion.
- Neither the government nor the contractor has placed sufficient emphasis on comprehensive transition planning. The government's primary focus is on placing adversely affected employees, often at the expensive of sustaining operations. The contractor's primary focus is on the logistics of transition—hiring, security clearances, and inventory—often at the expense of becoming familiar with the operations he or she is assuming.

Relationship between the installation and the new provider

Every competition that had a rocky transition was characterized by a strained relationship between the installation management and the new provider. In all seven of these cases, the new provider was a contractor. Tensions and anxiety can run high during a competition. If a contractor wins the competition, these tensions can spill over into the transition and sour the relationship between the contractor and the installation. However, a poor relationship is not a foregone conclusion. From our review, it appears that the real determinant of the nature of the relationship is the installation's leadership. The installation leadership sets the tone and expectations for the competition and the transition to contract performance. In every case we

examined where the relationship was good, the installation commander, the project manager for the contractor, and those responsible for the transition took an active role. Candid and open communication reduced tensions. During the transition, installation leaders sent a clear message that it was not a "them against us" situation, and that the mission still had to be maintained and customers had to be served.

Two competitions are particularly illustrative of this point. Both competitions were conducted by the same headquarters organization. The functions related to supply that were being competed were virtually identical, with the operations at one installation being somewhat larger and more complex than the other. The same contractor won both competitions. In the smaller competition, the transition was smooth; in the larger, the transition was rocky. A key difference between the two transitions was the leadership at the installations. In the case of the successful transition, the commander motivated his employees by holding monthly "all hands" meetings to keep them informed; provided them with cross-training so that whatever the outcome, the employees would be more competitive; and emphasized that they still had to provide quality service to their customers. He made an effort to establish a productive working partnership with the contractor, and as a consequence, contract and government officials we interviewed said that they were able to work through issues and resolve problems quickly.

At the other installation, the commander opposed the competition and would not meet with the contractor or schedule the transition. As a consequence, the contractor had difficulty entering the installation, identifying government employees to interview for jobs, and obtaining needed security clearances. According to the contractor's representative, he had to hire temporary employees to do the inventory because the government employees were not allowed to assist the contractor. Once installation personnel knew that the decision was to contract out, they slowed their performance, thus creating a backlog. The turnover was scheduled to take place at the end of the fiscal year and a long holiday weekend. As a result, there was a heavier than normal workload on the first day of the operation that was difficult for the contractor to overcome. The in-house workforce also made it

difficult for the contractor to locate stock in the warehouse, and installation security eventually had to be used to find it. A "tiger team" of in-house personnel from another location eventually had to be brought in to assist the contractor for a period of time. Many of these transition problems could have been avoided or minimized if the installation leadership had been more positive.

In competitions where the leadership does not support the competition or where the relationship between the installation and contractor is poor, it is not uncommon for the affected employees to undermine the incoming contractor. During our review of the 16 competitions, we were told of a number of such incidents. For example, in one competition, one of the government managers collected all the keys to buildings and equipment but did not turn them over to the contractor. The contractor had to call the previous managers who found the keys for him. In another competition, depot stock was misplaced and it took installation security to finally locate it. In a third competition, underground communications cables were cut and man hole covers damaged.

In addition to these types of obstructions, it is not uncommon for the installation workforce to make it difficult for the contractor to enter the installation, be slow in identifying employees to interview, or create bottlenecks in the processing of paperwork for clearances and the like. These obstacles make it difficult for the contractor to perform in a timely manner and reinforce the poor relationship with the installation.

Length of transitions

There was no correlation between the size or number of functions and the amount of time allowed for the transition. Although contractors generally were held to the transition periods stipulated in the solicitation, MEOs typically were not subject to rigorous time lines to reach full performance.

For the 16 competitions, the range for converting from in-house to contract performance was from 60 to 135 days, with an average transition period of 94 days. There was no correlation between the length

of a transition and the size, number, or complexity of the functions being transferred to the new provider. For example, the transition period for the largest competition (more than 2,000 FTEs and 15 major functions) was 90 days, whereas the transition for a much smaller function (120 FTEs and 7 functions) was 120 days. However, the length of the transition period, although it contributed to rocky transitions, did not seem to be the driving factor. For example, a competition of facilities maintenance, transportation, and supply functions with 234 FTEs had a 180-day transition period that was considered rocky whereas a competition of facilities maintenance, transportation, supply, and aircraft maintenance functions with 1,034 FTEs had a transition period of similar length that was considered smooth.

Transition planning

Neither the government nor the contractors were particularly successful in planning for transition. Of the 16 competitions, only 5 were well planned. Government and contractor officials for several competitions acknowledged that they had no formal transition plans or said that though transition plans were developed, they were not implemented. Moreover, if the decision was to retain the function(s) in-house, transition requirements in the solicitation were not applied to the MEO. We also found that the government's main focus during a transition was on placing the affected employees in other jobs, and less attention was paid to maintaining mission requirements.

A comprehensive government transition plan should ensure that:

- Mission requirements are met during the transition.
- Personnel are realigned and trained for their new responsibilities. Adequate training is particularly important if they are to assume quality assurance positions or are part of the in-house monitoring efforts.
- Inventories are taken of the equipment and supplies to be transferred to the new provider.

- Arrangements for security clearances are made where necessary.
- Customers are informed of any changes in services or procedures for obtaining services.

Meeting mission requirements

When evaluating the 16 competitions, it appeared that for the majority of the competitions, the installation's main priority during transition was the placement of affected employees and that little emphasis was placed on maintaining its operations to sustain mission requirements. As a consequence, workload backlogs were frequent occurrences as government employees were reassigned to other positions. The backlogs made the new provider's transition and its ability to fully meet performance requirements more difficult.

In two competitions, officials arranged for employees from other installations to supplement the in-house workforce until the new provider was at full performance. They also transferred some of the workload to other installations until the new provider was up to speed. In two other competitions, officials arranged for soon-to-be transferred military personnel to supplement the remaining in-house workforce until the new provider was operational. The military in one competition also monitored the transition and were available to fill in on an emergency basis if needed. This type of transition planning promotes not only the uninterrupted provision of services but fosters good will and partnering between the contractor and the government.

Realigning and training personnel

As part of a transition to contract, in-house employees will often be reassigned to the residual in-house organization that will monitor the new provider's performance. In a number of the competitions affected, employees were not reassigned to their new positions until just before the new provider began performance. Even when the people were notified of their new positions in advance, they could not assume their new responsibilities until the new provider started. The employees we interviewed who were assigned to these positions said that the training they had received was minimal and inadequate to perform their new jobs. Employees required additional training

particularly in the areas of evaluating contract performance, understanding the scope of the PWS, and identifying specific contract requirements. They said that it often took 6 months to a year before they felt comfortable enough to adequately evaluate the contractor's performance.

Taking inventory and requesting security clearances

The government did make plans for taking inventories and requesting security clearances. With one exception, inventories were taken without problem. For one supply competition, the contractor had to forgo the inventory because of significant difficulties in hiring qualified employees.

Obtaining security clearances was a problem in only one competition. According to the government officials we interviewed, the contractor did not prepare the necessary paperwork in a timely manner. As a consequence, the government had to supplement the contractor workforce with two employees who worked part-time to perform certain hazardous materials duties until the contractor was able to make the necessary arrangements, about a month later.

Informing customers of new procedures and services

The transition plan of only one competition included developing a guide for customers to explain the changes in procedures and services. The guide explained the changes that would occur regardless of result, identified the responsibilities of all parties, and explained process flows for the two scenarios—conversion to the MEO or the conversion to contract.

Contractor/MEO transition plans

The potential contractor or MEO has to develop its own transition plans. These plans typically cover hiring needed employees, becoming familiar with the new operations, and transferring the inventory of supplies and equipment from the pre-MEO government operation. They should also cover any needed actions to ensure that they will be able to meet all performance requirements at the end of the transition period.

MEO transition plans

The transition to an MEO is much less traumatic and problematic than the transition to a contract. Even though the in-house proposal calls for changes in the way the operations are performed, the MEO, as the incumbent, is already familiar with the operations. The largest obstacles tend to be learning to perform the operations with fewer people or with people who have a different skill mix. To the extent that large numbers of military personnel performed the function prior to competition, the MEO may have difficulty hiring additional personnel, especially if the installation is in a remote location, or if there is a shortage of qualified labor in the local labor market. In the competitions we reviewed, the transitions to an MEO were typically longer than the transitions to contract, were considered smooth by management, and illustrated problems in the ability to hire at full performance.

In two competitions, transition plans were developed but not followed. The individual who developed the plans left before the MEO was implemented and his replacement was not able to oversee the transition. One official we interviewed said that a number of processes outlined in the in-house proposal had yet to be implemented. In another competition, the transition took months longer than the time line identified in the solicitation. In this case, the installation found it difficult to hire qualified employees and were short about 15 people by the time it was scheduled to be at full performance.

Contractor transition plans

Many of the contract representatives we interviewed said that in retrospect, they did not do a good job in developing their transition plans or in following the plans once developed. Two areas were particularly problematic—becoming familiar with the new operations and hiring sufficient numbers of qualified employees.

Becoming familiar with operations. The transition to contract can take place either before or after the contract start date. The competitions we reviewed were about evenly split in whether they required the transition to occur before or after contract start. The competitions we reviewed typically had 3 to 7 months between contract award and

contract start, and up to 10 months between the actual decision date and contract start. To the extent that the transition starts after the start date and the relationship with the installation is good, the new provider can use this time to become familiar with the operations he or she is assuming. Even if the transition is to occur prior to contract start, a proactive provider often has several months before the transition officially starts that can be used to good advantage.

Contractors in three competitions took advantage of this extra time as well as the transition period to become familiar with the operations they were assuming. They were particularly good examples of how good transition planning can result in successful performance and a strong relationship with the installation. In one case, the contractor arrived early and used the time between the decision date and the, for example start of the transition to accomplish administrative tasks (setting up office space, for example) and began to familiarize himself with operations. Within two weeks of the decision date, this contractor had his senior staff in place and had completed the necessary paperwork to obtain clearances. The contractor used the transition period to interview on-site personnel and make job offers. He offered key people jobs at or above the salaries they were making as government employees. In this way, he was able to retain essential expertise that allowed him to have a more productive workforce than would have been possible if he had had to hire new employees.

In another competition, three contractors were awarded four contracts. (One contractor was awarded two contracts.) The familiarization process for their transition was well thought out. During the first 2 months, two of the three contractors who won the competition began their transition by watching the government perform the work. During the second month, the two contractors performed the work and the government watched. Total responsibility was turned over to the contractors after the government determined that the contractors were capable of performing effectively. The turnover in these cases proceeded ahead of schedule. The third contractor took over immediately because the program officials wanted a turn-key transition. Both the contractor and the program officials were satisfied with the quality of the contractor's performance.

These cases, however, were the exception in the 16 competitions we reviewed. More commonly, the contractor's key management staff would arrive at the start of the transition and use most of the transition time to interview and hire people. The full complement of workers would not be present until the contractor was expected to be at full performance. As a consequence, they had no time to become familiar with the operations or to be trained in systems or procedures that might be unique to the operation. This also meant that any needed security clearances could not be processed in advance of the full performance date. More importantly, it meant that the contractor's successful performance during the critical first months was dependent on the contractor's success in hiring experienced former government employees who were already familiar with the operations. To the extent the contractor was successful in his hiring, the transition was deemed a success. If he was unsuccessful, his performance suffered and the relationship with the installation became strained.

Hiring new employees

Most contractors competing in large-scale multi-function or multi-site competitions do not have a pre-existing workforce to put in place if they win the competition. Instead, they depend on hiring government employees who are being displaced from their jobs. Many of the contractors we interviewed said that they expected to hire at least 50 percent of the government workforce and would have preferred to hire all of the displaced workforce.

Nine, or 75 percent, of the contractors in the 16 competitions said that they had not been able to hire as many displaced governments as they had hoped and had difficulty hiring qualified people. Many of these contractors still have hiring difficulties, especially if they are in remote locations or in tight or limited labor markets. The contract officials we interviewed said that they frequently have to import workers in order to augment the local labor force. This, in turn, can increase their turnover rate which is often disruptive and can threaten performance.

Several factors increase a contractor's difficulties in hiring displaced government workers. They include:

- **Government placement of affected workers**. To the extent that the government is successful in placing its affected workers in other government jobs, the contractor's pool of potential employees is reduced. Contractors we spoke to said that the government is often the only source of trained employees and the extraordinary efforts it exerts to place workers can cause the contractor transition and performance difficulties. If the contractor cannot retain a significant portion of the in-house workforce, the contractor will probably spend much of the transition period trying to hire employees instead of using that time to familiarize the contract staff with the government operation.

- **Reluctance to pay workers above the Department of Labor wage rates for a particular type of worker**. Contractors are often reluctant to pay more than DOL wage rates because doing so may hurt their competitive position. To the extent that contractors' offers do not match or exceed government employees' current salaries, the employees will reject the contractor's offer. For example, in two competitions the winning contractors offered the displaced government workers less than their current salaries when other government organizations in the immediate area were matching or exceeding their salaries. As a consequence, the displaced employees accepted offers from the other government organizations. In fact, many of the affected workers were unhappy that they were placed within the remaining government organization and not RIF'd so that they could transfer to the other government organizations that were hiring.

Quality assurance

During our review of the 16 competitions, we focused on how the government was performing its quality assurance responsibilities. Performance monitoring is central to a successful competition. The government must continually evaluate the contractor or MEO's performance to ensure that it meets the requirements established during the competition. Under the provisions of A-76, the government is to ensure that the contractor or MEO's quality control program is adequate to ensure full performance. Therefore, it is essential that the individual(s) who are assigned this responsibility are trained in quality assurance and are technically knowledgeable about the function. As with the members of the Source Selection Evaluation Board (SSEB), it is imperative that they be fair and bring an objective attitude to the job. Overzealous monitoring can quickly erode the trust and respect needed between the government and the new service provider.

Quality assurance is essential to accurately measuring performance. If the quality assurance evaluators (QAEs) don't know how to evaluate contractor or MEO performance, or if they are biased or overzealous, the actual performance may be misrepresented. Therefore, it is important that QAEs are well-trained, objective, and measure whether the provider meets the performance requirements in the solicitation. In our review of the 16 competitions, we found that:

- QAEs, are generally performing quality control, not quality assurance, and expect the provider to perform the function as it was performed prior to competition.
- QAEs are not sufficiently trained in how to perform quality assurance, or on the specific contract/MEO performance requirements.
- Quality issues are frequently related to the lack of fully developed performance metrics. For example, QAEs typically rated contractor performance of facilities operation and

maintenance functions lower than his or her performance of other functions such as supply and transportation.

- In-house performance did not receive the same scrutiny as contractor performance. Quality assurance for in-house wins was characterized by a lack of guidance, inconsistent implementation, and self-monitoring.

One competition, though an extreme example, illustrates what can occur if QAEs perform quality control, are not well-trained, or are overzealous. In this case, officials we interviewed said that QAEs and functional managers were hostile to contract performance and rated the contractor's performance very low. Although the QAEs had taken the basic quality assurance course, they had little knowledge of the contract requirements. In many cases, they performed 100-percent inspections when the surveillance plan called for inspecting a random sample. Within the first 6 months, the QAEs had not approved any of the contractor's requests for payment. About $890,000 were in dispute. As a consequence, the contracting officer had to intervene to break the stalemate between the two parties. He found that virtually none of the contract discrepancies claimed by the QAEs were warranted and authorized full payment to the contractor. When the monitoring problems were corrected, the contractor's performance ratings improved. Today, all the officials we interviewed who are involved in to this competition—including the QAEs—acknowledge that the contractor is currently meeting or exceeding the contract requirements. The functional manager said that the contractor is performing the work better than the pre-competition workforce in many areas.

Quality control versus quality assurance

Circular A-76 calls for the government to perform quality assurance on both contract and MEO performance. It also makes a distinction between quality control and quality assurance. In essence, quality control is the day-to-day monitoring of performance. It is typically done at the task level and is the provider's responsibility. Quality assurance is the evaluation of whether the provider is meeting its overall performance requirements and is the government's

responsibility. In other words, the distinction between quality control and quality assurance is analogous to the distinction between requirements and performance-based PWSs. Quality control measures *how* the provider delivers the required service, whereas quality assurance measures *whether* the provider satisfies the performance standards or goals in the solicitation.

We found that the QAEs in the competitions we reviewed examined the provider's day-to-day performance, rather than evaluating whether the provider met performance requirements or whether there were systemic weaknesses in the provider's actions or processes that produced poor performance.

One competition that is currently in its second year of performance stands out. In this case, the transition period was shortened by 3 months because the in-house workforce had shrunk to the point that backlogs were mounting. Officials we interviewed, including the contracting officer, said that the QAEs were given minimal training and lacked the skills necessary to communicate with contractors, and needed to improve their writing skills. They also said that the QAEs were unfamiliar with the contract requirements and the surveillance plan, and how and when to write deficiency reports. Some of the QAEs, particularly those assigned to the facilities maintenance function, expected 100-percent compliance and issued contract deficiency reports for minor issues such as a worker arriving late at a job site. As a consequence, there were about 12 QAEs to monitor a contract workforce of 90 people.

Training

Ideally, QAEs should be trained to perform quality assurance, to be knowledgeable about the solicitation or contract requirements, and to know how to establish productive relationships with the service provider. Typically, the QAEs for the 16 competitions we examined were given a basic quality assurance course either just before or just after contract start. In general, they received no formal training on the contract requirements or on how to relate to the service provider. Most commonly, the QAEs were expected to learn these aspects of their new responsibilities on the job. The QAEs we interviewed said that they needed more training to perform their jobs.

They also wished they could have begun their jobs prior to contract start so that they could have familiarized themselves with their responsibilities and known how to proceed. The most common practice was to establish the in-house organization monitoring the contract as close to the contract start as possible. In this way, the installation could keep the new QAEs in their former jobs as long as possible to ensure program continuity and have the maximum time available to place its adversely affected employees. However, this practice frequently exacerbated the difficulties facing the new QAEs. It was not uncommon that they spent the first months in their new jobs trying to find office space, furniture, and equipment, rather than familiarizing themselves with the terms of the contract and the contractor's performance.

Relationship between performance metrics and quality assurance—an evaluation of facilities maintenance and operations

As discussed in the performance section of this study, the lack of adequate—or full—performance metrics can create a situation where there is discord between the government's expectation of good performance and the contractor's aspiration to meet the metrics defined in the PWS. If metrics are ill-defined, government personnel can view contractor performance as lacking, even though the contractor is meeting the requirements and metrics outlined in the PWS. From the contractor's perspective, the government is requesting a standard of quality or additional activities which are outside the original scope of the contract.

This problem is particularly acute in the area of facility operations and maintenance. Although 16 competitions are too small a sample to permit statistically meaningful trends, we did observe that QAEs frequently ranked contractors' performance of facilities maintenance and operations services lower than they ranked their performance of other functions such as supply and transportation services. This was true even if the same contractor was performing all of the services.

When we examined this further, we found that QAEs monitoring facilities-related functions were apt to measure the contractor's performance based on how the in-house workforce had performed the function. If the contractor was not duplicating the in-house process, the QAE was more likely to believe that his or her work was not satisfactory. In contrast, QAEs monitoring supply or transportation service tended to measure performance based on specific performance measures such as receipts, issues, inventory accuracy, and vehicle out-of-commission rates. Because they had clearer performance measures, they were less likely to focus on the process used by the contractor.

Contract versus MEO monitoring

The four competitions that remained in-house receive less day-to-day scrutiny than do the 12 competitions that were converted to contract both in terms of transition as well as day-to-day performance monitoring. As discussed in the transition section of this report, government organizations were slower to implement their MEOs. Several had not reached their MEO levels or had staffed the MEO with higher graded employees than originally proposed; and began their formal monitoring well after the MEO began performance.

In three of the four competitions, the installation had not reached its proposed MEO level or had not staffed the MEO at the grade levels proposed in the in-house proposal. In one of the competitions, the MEO had not been reached and budget cuts at the installation reduced the authorized staffing to below MEO level. There was no corresponding reduction in workload documented, and it was unclear whether the MEO was still being held to the performance requirements in the solicitation. In another competition, the MEO reached its proposed staffing level of 50 people for only a brief period. It is currently operating with 44 people. In the third competition, although the staffing level proposed in the MEO had been reached, it deviated from the grade structure proposed in the MEO.

Typically, monitors have been assigned to evaluate the MEO's compliance with the solicitation's performance requirements. As a general rule, these monitors have not received the training provided QAEs

who monitor contractor performance. In at least two competitions, the installation was unaware of the requirement to monitor in-house performance until several months after the MEOs were to be at full performance. Even after monitoring began, it was done on a sporadic basis whenever the monitors could take time from their normal duties. The monitors we interviewed said that they relied on the PWS, found the quality assurance surveillance plan (QASP) hard to interpret, and did not know the relative priorities between the various performance requirements. When questioned, the monitors did not know who received the performance information they collected or how it was used. In the third competition, functional managers self-monitor the performance of their MEO units. They rely heavily on the command's performance evaluation process which consists of customer surveys, field interviews, and failure or rejection rates.

Although the number of monitors assigned to a competition is not necessarily indicative of the quality of the monitoring, it is interesting to note that in competitions where the decision was to retain the function in-house, only one or two monitors were assigned to evaluate MEO performance. In contrast, in competitions won by contractors, it is not uncommon to have 20 or more QAEs. On the surface, it would appear that installations place less importance on monitoring in-house performance than they do on contract performance.

When these observations are taken in combination, it is difficult to determine whether the MEOs in these competitions are meeting the performance requirements contained in their respective solicitations. If DoD is to know whether its functions are being performed efficiently and effectively, it is essential that MEOs be monitored to the same standards as are contractors and that monitors of in-house performance be given the same quality assurance training as QAEs.

A change in performance monitoring—a case study

After a particularly rocky transition that was characterized by animosity between the functional organization and the contractor, hostile and overly critical QAEs, inadequate training, and delays in payment to the contractor, the contracting officer replaced the QAEs with quality assurance specialists (QASs) from another organization. The

QASs were experienced in overseeing large contracts; had additional training including ISO training;[13] and brought a different and more neutral approach to contract monitoring. Instead of inspecting every task, their approach was to evaluate the contractor's quality control program and ensure that it was resulting in quality performance. If there seemed to be a performance problem, they, together, with the contractor, would determine whether changes were needed to the quality control program so that the problem or similar problems would not recur. Because they were separate from the functional area, they were able to be more neutral in their evaluation of the contractor's performance. They were also able to focus more on the results the contractor achieved, and less on the processes he used to achieve those results. All of the officials we interviewed said that this approach is working well and that there is a productive relationship between all parties now. They said that they much preferred this approach to their earlier one and are now using it on all public-private competitions.

13. ISO refers to an international set of quality management standards that have been developed over time by a network of national organizations focused on process management.

Ease of competition

Finally, to determine whether large competitions were easier or harder to conduct than small, single-function, single-site competitions, we examined not only the length of time it took to conduct the competition, but each step of the competition process as well.

A successful A-76 competition is structured and conducted in such a way to ensure access to the widest number of competitors, one of whom will be selected and evaluated objectively. To attract the widest number of competitors, the organization must package the competition effectively and describe the work to be done in terms of the results to be achieved, not the processes by which it is to be done. The descriptions of the work are generally referred to as performance work statements (PWSs). Competitors must also be assured that their proposals, and, if selected, their work will be evaluated objectively. Effective transitions selection and quality assurance are the keys to the successful performance of the new provider.

The same competition process is used whether the competition is large or small. We found that, for the most part, competition size or complexity does not affect the ease of competition. As discussed throughout this study, several steps—packaging, transition, and quality assurance—are very important in deciding whether to conduct a large multi-function or multi-site competition and in determining its ultimate success.

The remaining steps—PWS and MEO development, contracting, and independent review[14]—while important components of an A-76 competition, are not necessarily made harder or easier by the size or complexity of the competition. Overall, we found that:

14. OMB has recently proposed a number of revisions to the A-76 process. If these revisions are adopted, the requirement to conduct an independent review of the in-house proposal will be eliminated.

- PWSs were becoming more performance-based than those we have previously reviewed, but they still needed improvement.
- MEOs generally did not propose major changes to the current operations, rather they reduced overhead and down-graded positions.
- Independent reviewers in all but one competition found no significant errors in the in-house proposal. In several competitions, however, independent reviews expressed concern that they were not experts in all of the functional areas and believed that they were at a disadvantage when evaluating functional capabilities.
- The contract type was not always well matched to the level of performance risk associated with the functions.
- Small business received a significant amount of BOS work.

We highlight our specific findings for these steps in this section. A more detailed examination of each step is provided in appendix A.

PWS and MEO development

When we examined the PWS development in the 16 competitions, we found that:

- The PWSs ranged from outcome-based to requirements-based. Seventy-five percent were still requirements-based, but more approached being performance-based than previous competitions we have reviewed. One competition was outcome-based, a first for A-76 competitions.
- Seven competitions, or 44 percent, used generic PWs; the remainder developed unique PWSs.
  - — Generic PWSs offered consistency among competitions and saved overall development time. For the most part, officials we interviewed were pleased with generic PWSs unless they limited flexibility to adapt to different workloads or accommodate the unique aspects of their functions.

— Unique PWSs were more likely to be requirements-based or prescriptive. Local officials were pleased with their unique PWSs because they described the functions in greater detail, but in hindsight they wished that they had been more performance-based so that the new provider could be more innovative.

- PWSs and workload estimates were often outdated by the time the new provider began work.

With respect to the development of the in-house proposal or MEO, we found that:

- The majority of the competitions—62.5 percent—used local teams to develop the MEO.
- The MEOs generally did not make significant changes in the pre-competition work processes, rather they reduced costs by a "winning" percentage by reducing overhead and downgrading positions.
- Efforts were made to establish firewalls between the PWS and MEO teams.

Independent review

Overall, the independent review of the 16 competitions found no significant errors in the in-house proposals. There was one exception to this overall finding. In that case, the problems with the in-house proposal were major and the proposal had to be significantly revised. In general competition officials were satisfied with the quality of the independent review. Even though there was overall satisfaction, several source selection officials for several of the competitions found instances where, in their opinion, the in-house proposal did not meet the solicitation requirements. In several competitions, independent reviews expressed concern that they were not experts in all of the functional areas and believed that they were at a disadvantage when evaluating functional capabilities.

Contracting considerations

Although all of the competitions we reviewed were negotiated procurements, there was a mix of contract types and restricted and unrestricted procurements, and differing methods to evaluating best value and the in-house proposals. Specifically, we found that:

- The contract type was not always well matched to the level of performance risk associated with the functions.
- Small business received a significant amount of BOS work:
  - Thirty-one percent of the competitions were set aside for small businesses.
  - An additional 12 percent were awarded to small business, though the competition was unrestricted.
  - Large businesses had substantial small business goals.
- The majority, 62 percent, of the source selection authorities (SSAs) were from headquarters organizations.
- The in-house proposals were evaluated in a variety of ways. In several competitions, the source selection evaluation boards (SSEBs) evaluated the proposals as they would a contractor's proposal.
- Although a number of competitions received appeals or protests, and in one case, a court challenge, none of these actions reversed the initial decision.

Appendix A: Competition process

PWS and MEO development

PWS and MEO development are two of the most work-intensive steps in the A-76 process. The PWS defines, for both the in-house and private-sector competitors, what is being requested, the performance standards and measures, and time frames required. It, more than any other step, determines the quality and number of bidders and the maximum level of performance the organization can expect. The MEO represents the government workforce's opportunity to be more competitive than the private sector. It is vitally important that both steps produce quality products.

Overall, we found that the PWSs were becoming more performance-based than those we have previously reviewed, but they still needed improvement. We found that MEOs still needed to be more innovative and competitive.

When we examined the PWS development in the 16 competitions, we found that:

- The PWSs ranged from outcome-based to requirements-based. Seventy-five percent were still requirements-based, but more approached being performance-based than previous competitions we have reviewed. One competition was outcome-based, a first for A-76 competitions.
- Seven competitions, or 44 percent, used generic PWS; the remainder developed unique PWSs.
    - Generic PWSs offered consistency among competitions and saved overall development time. For the most part, officials we interviewed were pleased with generic PWSs unless they limited flexibility to adapt to different workloads or accommodate the unique aspects of their functions.

  - — Unique PWSs were more likely to be requirements-based or prescriptive. Local officials were pleased with their unique PWSs because they described the functions in greater detail, but in hindsight they wished that they had been more performance-based so that the new provider could be more innovative.

- PWSs and workload estimates were often outdated by the new provider began work.

With respect to the development of the in-house proposal or MEO, we found that:

- The majority of the competitions—62.5 percent—used local teams to develop the MEO.
- The MEOs generally did not make significant changes in the pre-competition work processes, rather they reduced costs by a "winning" percentage by reducing overhead and downgrading positions.
- Efforts were made to establish firewalls between the PWS and MEO teams.

PWS development

In examining the development of the performance work statement, we focused on four key areas. We also attempted to determine whether there is any correlation between these factors and costs, performance, and how the competition was managed. The four areas are:

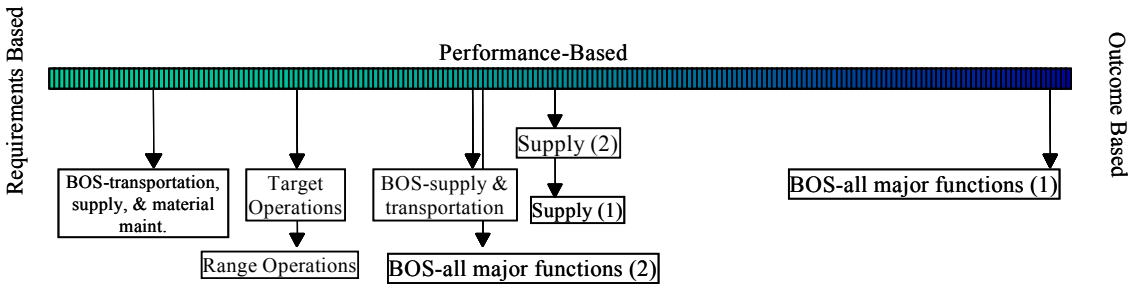
- Performance-based versus prescriptive PWSs
- Generic/template versus unique PWSs
- Accuracy and currency of PWS's and workload estimates
- Quality of performance measures and standards.

Performance versus requirements based PWSs

In our report on the long-run costs and performance of competitive sourcing, we found that the PWSs we reviewed were typically very

requirements-based and restricted bidders to duplicating the current work processes. We also found that older PWSs were more restrictive than the more recent ones. Since the 16 competitions we reviewed for this study were more recent than those in the previous study, we were curious to determine whether the quality of PWSs had become more performance-based over time. The following chart depicts where each PWS is on the continuum from requirements to outcome-based. We have included outcome-based PWSs in the continuum because, though not required by A-76, one competition in our sample developed an outcome-based PWS.

Figure 18. Type of PWS



Requirements Based:
- Ease of costing
- Limits performance risk
- Completeness of contingencies
- Little opportunity for innovation
- Limits opportunities for savings through limiting competition

Performance Based:
- Promotes efficiency and innovation
- Places responsibility and accountability for good performance on service provider
- Focuses on the end product rather than prescribing how to conduct the work

Outcome Based:
- Allows the maximum amount of innovation and efficiency
- Maximizes opportunity for savings
- Increased performance risk
- Lack of specificity may make costing difficult if workload data inadequate
- Lack of specificity may lead to problems meeting installation "expectations"

Generic versus unique PWS's

Government officials can either tailor a PWS to each individual competition or develop a generic PWS prior to the individual competition that can be applied to the competition once it has begun. Generic

PWSs provide a template for individual competitions which establish a standard scope of work for the function(s) while allowing for some modification in order to incorporate unique requirements. Each type of PWS has distinct advantages and disadvantages.

Generic PWSs can save competition time. After the PWS is developed, it can be applied to all competitions of the same function. They provide consistent performance measures and goals which make assessing performance across multiple locations easier for headquarters organizations. They also provide contractors with a consistent set of rules if they bid on multiple competitions of the same function. Generic PWSs also make identifying and applying "lessons learned" to subsequent competitions easier.

However, if generic PWSs don't adequately allow for the incorporation of an installation's unique requirements, performance can deteriorate and make it difficult fulfill the terms of the solicitation. Finally, there is an increased risk that specific activities are unintentionally omitted from the PWS in the drive to standardize performance from one location to another. This risk is enhanced if local officials who are responsible for the function's day-to-day operation are not part of the development effort.

Unique PWSs have the advantage of being specifically tailored to the given set of functions covered by a competition. They provide the opportunity to have a more comprehensive scope of work that accurately reflects all individual activities that should be performed. They are particularly appropriate if the function being competed is unique. Typically, it takes more time to develop separate PWSs for each competition than it would if one PWS were developed for a function that is performed at multiple locations.

For example, the storage of excess or surplus aircraft may be unique to a single location, whereas facilities operation and maintenance are performed at every location. Therefore, the PWS for aircraft storage will by definition be unique, while a PWS for facilities operation and maintenance can be developed for each individual location, or developed once for application to all locations. A unique PWS for the facilities operation maintenance function at each location will take more time to develop than a generic PWS for application of all sites. In

addition, there is the risk that the individual PWSs will vary greatly in quality and have vastly different performance standards and goals. The differences between multiple PWSs for essentially the same function can cause needless confusion and delay.

Of the 16 competitions we examined, all were for functions that existed at multiple locations. Seven, or 44 percent, used generic PWSs. A unique PWS was developed for each of remaining 9 competitions. All of the competitions using generic PWS's were centrally managed by headquarters organizations. Five centrally-managed competitions developed unique PWSs. All of the installation-managed competitions developed unique PWSs. (See figure 17)

Figure 19. Generic versus unique PWS

Competition	Generic	Unique	Type of management	Length of competition
BOS-transportation, supply, and material maintenance		x	Installation	37
BOS-all major functions 1		x	HQ	29
Range operations		x		26
Target operations		x		38
BOS-all major functions 2	x		HQ managed/ installation performed	22
BOS-supply & transportation	x		HQ managed/ installation performed	28
Supply 1	x		HQ	21
Supply 2	x		HQ	23
Facilities operation and maintenance		x	Installation	24
Information management		x	Installation	23
BOS-all major functions 3	x		HQ	27
BOS-all major functions 4	x		HQ	38
Communications		x	Installation	22
Property disposal	x		HQ	22

For the most part, the headquarters officials we interviewed believed that generic PWSs were very effective. Local officials mirrored that view, if, in their opinion, there was sufficient flexibility to accommodate unique aspects of their functions or widely different workload levels. They appreciated the use of a generic PWS because

they believed that they did not have sufficient expertise to develop an adequate PWS on their own. To the extent that the generic PWS offered limited flexibility, however, local officials were more critical. In one competition, officials repeatedly stated that the PWS did not adequately describe the large-scale deployments that occurred at their installation. As a consequence, they believed that quality of work had suffered and had on occasion threatened their readiness.

Most local officials were pleased with the quality of the PWSs they had developed on site. They believed that they were sufficiently detailed to accurately describe the work to be performed. In hindsight, however, several local officials said that, in retrospect, they wished that the PWS had been more performance-based, because their contractors could not be innovative under the current requirements. The officials said that these problems would be corrected in the recompetition. In one locally-managed competition, officials expressed the view that it would have been preferable if their headquarters organization had developed the PWS because they were frustrated at the competition's long duration and their lack of expertise. They also stated that their regular duties suffered while they participated in the competition.

Accuracy and currency of PWS and workload estimates

The third area we examined was the accuracy and currency of the PWS and the workload estimates it contained. Because of long procurement leadtimes, it is very difficult to make PWSs and workload estimates accurate and current. It is not uncommon for the PWS to reflect work requirements and conditions that are two years old by the time the decision is made to contract out or retain the government workforce. However, it is critically important that the PWS adequately describe all the functions that need to be performed and provide realistic workload estimates. If functions or portions of functions are omitted, needless functions included, or workload faulty, it will be impossible for the new provider, contract or MEO, to perform adequately within the costs it proposed. Poor PWS and workload estimates create frustration and dissatisfaction by all parties and escalate tensions needlessly between the government managers and customers and the provider. This is particularly true if there is no easy way to make corrections.

MEO development

Ten of the 16 competitions used local teams to develop their MEOs. The majority of officials we interviewed believed that the local functional managers were in the best position to streamline their organization. Of the competitions whose MEOs were developed centrally, headquarters officials said that local officials are less able to make major reductions or changes and risk increased tension and dissatisfaction in the workforce. Forty percent of the locally developed MEOs prevailed in the competition; none of the centrally developed MEOs prevailed.

A wide variety of techniques were used to develop the MEOs of the competitions we examined. They included using an MEO from another competition as a starting point; using a pre-determined reduction goal of 30 percent; process reengineering; changing the labor mix; and automation and modernization.

In one competition, the strategy was to reduce in-house costs by 25 to 30 percent, because the historical average savings of winning in-house estimates is 25 to 30 percent below current costs. The consultant developing the management plan used a methodology called "rapid prototyping." The technique is used to perform business process reengineering and relies heavily on interviews with functional managers to identify work processes and workload. Additional data collection, analyses, and interviews were also necessary to develop and validate the reasonableness of the MEO.

With the exception of two competitions, efforts were made to establish firewalls between the PWS and MEO teams. In these two cases, the same team developed both the PWS and MEO. Both competitions were conducted in 1999. At that time, there was no prohibition against using the same people on both teams. The firewalls that were employed included such things as maintaining separate offices on separate floors or buildings, and establishing separate password-protected data files.

In one competition, the contracting office treated the MEO team as if it were a private sector provider and refused the team access to the PWS until the solicitation was released. In most cases, however, the

MEO team had access to a draft PWS as soon as it was completed. And in several cases, the MEO team had access to segments of the PWS as they were completed and were able to begin preparing the in-house proposal before the solicitation was issued. MEO team members frequently said that they needed this extra time in order to submit the in-house proposal on time.

Independent review

Overall, the independent review of the 16 competitions found no significant errors in the in-house proposals. There was one exception to this overall finding. In that case, the problems with the in-house proposal were major and the proposal had to be significantly revised. In general, competition officials were satisfied with the quality of the independent review. Even though there was overall satisfaction, several source selection officials for several of the competitions found instances where, in their opinion, the in-house proposal did not meet the solicitation requirements. In several competitions, independent reviews expressed concern that they were not experts in all of the functional areas and believed that they were at a disadvantage when evaluating functional capabilities.

The independent review is the government's last check to ensure that the in-house proposal is error-free before it enters into competition with the private sector proposals. It is designed to ensure that the in-house proposal can meet the PWS requirements and the cost estimate is complete, accurate, and complies with A-76 requirements. Circular A-76 requires that the independent reviewer be impartial and organizationally separate from the function being competed and separate from the organization preparing the in-house proposal. The independent review must be completed and the in-house proposal submitted to the contracting officer by the proposal submission date.

Results of independent review

The independent reviewers found no significant problems with over half of the 16 competitions. Three in-house proposals required some significant change. For example, in one case the MEO team proposed to reduce the number of personnel needed to perform the functions by closing a site. The independent reviewer believed that the PWS

prohibited any closures, and required that the MEO be revised to reflect his finding.

The independent reviewer found numerous problems in only one competition. The problems were such that the MEO had to be redone and the competition extended by 6 months. In this case, the independent reviewer found deviations from the solicitation, math errors, inconsistencies within functions, insufficient analyses to support assumptions, and inadequate historical performance backup, as well as position descriptions, grades, and series that were inconsistent with PWS requirements and the MEO. These problems were resolved by a separate team from the headquarters organization who corrected documents, gathered additional data, revised the in-house proposal, and established audit trails for every issue.

Satisfaction with independent review

For the most part, the officials we interviewed were satisfied with the independent reviewer and the quality of their work. In several competitions, officials said that the reviewers needed additional training, especially in the functions areas being competed. Also, contracting officials in several competitions said that the independent reviewers did not catch all the problems in the in-house proposals, and that they did not meet the PWS requirements. As a consequence, changes had to be made to the in-house proposal during the selection process.

In at least two cases, the officials believed that independent reviewers were risk adverse and unwilling to accept innovative approaches that may have been included in the in-house proposal. For example, in one competition, members of the MEO team said that the independent reviewer challenged every efficiency proposal and made it more difficult for the in-house team to compete effectively. In their view, the independent reviewer was unwilling to accept any amount of risk. Instead, the reviewer used historical workload and fund expenditures to develop "should cost" estimates to perform the PWS. All proposed changes to the in-house operations were compared to this baseline. These officials were dissatisfied with the independent reviewer's performance and would prefer not to use the reviewing organization for future competitions.

Who performed the independent review

The independent reviews for all but two of the 16 competitions, or 87 percent, were done by a headquarters organization. Seven independent reviews were conducted by a Service audit agency, and seven were conducted by financial analysts at the headquarters organization. Only two were conducted at the local level. However, the headquarters organization has since changed its policy, and future competitions at these installations will be performed by the Service audit agency. Consultants were used in three cases. The consultants performed the analysis for the audit service or headquarters organization who reviewed the consultants' work and signed the certification as the independent review official.

For the most part, the review was performed by a single person, usually someone with financial or auditing experience. In competition, however, the independent review was performed by a team composed of a financial management analysts and representatives from human resources, each functional area, and procurement. Originally, a representative from the headquarters organization was to conduct the independent review. However, he soon decided that he needed additional expertise to perform a comprehensive review, where upon the headquarters organization moved to a team approach. Using this approach, each team member reviewed that portion of the in-house proposal needing his or her expertise. For example, the human resources representative reviewed the MEO structure for appropriate grades and positions; the functional experts reviewed the feasibility of the proposed efficiency changes in their respective functions; and the financial analyst reviewed all the costing information for reasonability and accuracy. The headquarters organization was so pleased with the team approach that it is using it with all subsequent competitions. The organization believes that this approach provides a more comprehensive review in a shorter timeframe. The reviews are taking approximately one week.

Contracting considerations

An A-76 competition must comply with the normal federal contracting process, including selecting a contract type, deciding whether the

procurement should be restricted to small business, issuing a solicitation, evaluating proposals, selecting a winner, awarding a contract, and monitoring the contract. If the in-house proposal wins the competition, the MEO and associated technical performance plan (TPP) serves as the contract, and the government must monitor its performance as if it were a private sector firm.

Although all of the competitions we reviewed were negotiated procurements, there was a mix of contract types and restricted and unrestricted procurements, and differing methods to evaluating best value and the in-house proposals. Specifically, we found that:

- The contract type was not always well matched to the level of performance risk associated with the functions.
- Small business received a significant amount of BOS work.
  - — 31 percent of the competitions were set aside for small businesses.
  - — An additional 12 percent were awarded to small business, though the competition was unrestricted.
- The majority, 62 percent, of the source selection authorities (SSAs) were from headquarters organizations.
- The in-house proposals were evaluated in a variety of ways. In several competitions, the source selection evaluation boards (SSEBs) evaluated the proposals as they would a contractor's proposal.
- Although a number of competitions received appeals or protests, and in one case, a court challenge, none of these actions reversed the initial decision.

Contract type and risk

The 16 competitions we reviewed spanned various contract types. Ranging from firm fixed-price contracts—with and without indefinite delivery indefinite quantity or reimbursable provisions—to cost-plus contracts. Each of these contract vehicles is appropriate within an

A-76 competition. However, the choice of which contract vehicle to use can be a factor in both potential savings and contractor performance.

Contract types should be selected based on the amount of risk associated with performing the contact. Risk is defined two ways: first, as the risk to the government of non-performance by the contractor for a pre-determined price and, second, the risk to the contractor of cost overruns without reimbursement from the government. Therefore, although firm fixed-price contracts promote efficiency, there is a greater risk of non-performance at the negotiated price if the scope and workload are not current or accurate, or if large variations in workload are expected to occur throughout the contract period. Conversely, if the scope of work is well defined with only small variation in workload expected, the risk of large variation in cost to both the contractor and the government is minimal. Under this scenario, the use of a firm fixed-price contract will promote efficiency by the contractor with minimal risk of non-performance or cost overruns.

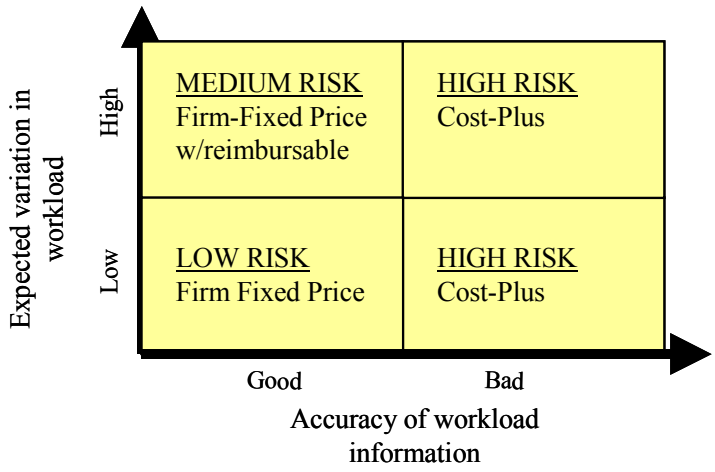
When large variations in workload or scope are expected or when workload estimates in the PWS are old or incomplete, a cost-plus type of contract is generally employed. Cost-plus contracts do not provide the same incentives as firm fixed-price contracts to minimize total cost. However, cost-plus contracts do minimize the risk of cost overruns to the contractor from inaccurate workload estimates, thereby minimizing the risk of non-performance.

If some portions of the scope of work are well-defined, but others less so, it is common to use some combination of contract types, such as firm fixed-price for the well-defined areas and a reimbursable portion for the areas subject to more uncertainty.

Therefore, when the workload is expected to be stable throughout the contract period and the workload and scope estimates are current and accurate, there is little performance risk and a fixed-price contract can be used. On the other hand, if the requirements are complex, not well-defined, or likely to change substantially in the future, and/or the workload estimates are outdated or inaccurate, the performance risk is higher. Because it is difficult to price this type of work with any confidence, a cost-plus contract is more appropriate;

it protects both the government and the contractor. Figure 18 shows the relationship between the level of risk and contract type.

Figure 20. Risk level and contract type



In addition to selecting a contract type, contracting officials also must decide whether performance would be enhanced by providing some type of monetary incentive to the contract. In those cases, an incentive or award fee can be added to the contract type.

16 competitions, risk, and contract type

The majority of the 16 competitions used some type of firm fixed-price contract. Only 2 competitions used a cost-plus type of contract.

One example that illustrates the level of risk that can be present in a competition follows. The large competition was managed by the headquarters organization with little involvement by installation officials in the development of the PWS and source selection. The PWS was outcome-based, and the specific performance standards and goals were defined as part of the proposal process. Because this was the first time the functions were being competed, some activities were inadvertently omitted from the solicitation, and workload estimates were based on 2-year-old data. At the time of the competition, the installation's strategic importance was low, and the expectation was

that the work would decline over the performance period and the installation would eventually close. As a consequence, the level of performance described in the PWS was lower than the current level, with workload estimates declining over time. Potential contractors were asked to address how they would scale down operations in their proposals.

By the time of contract award, the installation's strategic importance had risen dramatically. Instead of a steadily decreasing workload and eventual closure, it faced increased workload and the prospect of additional functions being transferred to the installation. These changes exacerbated the deficiencies in workload estimates and increased the performance expectations of installation personnel responsible for monitoring the contract. The contract was not revised to reflect these changes prior to award. As a consequence, the contractor found it difficult to predict what needed to be done. The firm fixed-price portion of the contract was very difficult to modify to reflect the changing reality. As a result, installation managers were unhappy with contractor performance in areas critical to readiness, and the contractor was forced to assume significant cost overruns to meet the requirements of an inaccurate PWS. A cost-plus contract would have provided more flexibility to adjust to the changing circumstances and would have mitigated the amount of risk of nonperformance as well the amount of risk to the contractor.

Composition of source selection board and selection decision

A Source Selection Authority (SSA) receives the recommendations of the Source Selection Evaluation Board (SSEB) and makes the final decision whether to contract out or retain the function in-house. If the decision is to contract out, the SSA also selects the winning contractor. In 10 of the 16, or 62 percent, of the competitions, the source selection authorities were from headquarters organizations. In several cases, this was true even though the rest of the competition had been conducted by the installation. In those cases, the SSA was the head of the headquarters procurement organization.

SSEBs typically were composed of a combination of headquarters and installation officials from functional, financial, and procurement

organizations. In two competitions, the headquarters organization decided that no installation officials could be included in the evaluation and selection process. However, this has since been changed, and functional experts are now included in the selection process. In two of the competitions, customers were included in the selection process, and in one competition, functional experts from another installation were included.

For the most part, there was no difficulty in finding members to serve on the SSEB. However, officials in four competitions said they did have difficulties in finding members. In one case, it was difficult to find people who could commit the needed time to the selection process. In two competitions, excluding installation officials limited the pool of qualified candidates. Officials in four of the competitions said that the SSEB members were not adequately trained to evaluate the proposals and ascertain whether the potential providers could fulfill the PWS requirements.

Evaluation of the in-house proposal

There was variety in how the in-house proposal was evaluated. In two competitions, the SSEB was not allowed to see the in-house proposal; in at least three competitions, the in-house proposal was treated like a contract proposal and the MEO team was required to make a presentation. In two of these cases, the SSEB believed that the in-house proposal did not adequately meet the PWS requirements and required the MEO team to make changes to bring its proposal into compliance.

Appeals and protests

Eight competitions had appeals or protests. There was one protest and 28 appeals. In five competitions, there were multiple appeals. The largest number of appeals for a competition was 14. The other competitions with multiple appeals average about 3 appeals each. There was one court challenge. Minor changes were required in only one competition as a result of appeals. The protest to the General Accounting Office (GAO) was not upheld. None of these challenges changed the initial decision. The court challenge was dismissed because it was ruled that the union did not have standing.

Appendix B: Tobit regression model

To quantify the factors that influence potential competition savings, we estimated a Tobit regression model. In this appendix, we present the full results of the model discussed in the section on savings. The dependant variable is the percentage savings realized from the competition. We include explanatory variables to explore some previously unexplained aspects of competitive sourcing and variables categorizing competitions as single- or multiple-function studies. We use a Tobit model because the percentage savings is censored from below at 0, and is correct for heteroskedasticity.

Regression variables

Table 9 lists a description and the mean value of the variables used in the regression model.

We included only those competitions for installation services in the categories of installation services, other non-manufacturing operations, and maintenance of real property. These studies represent about 74 percent of all competitions conducted between 1978 and January 2002. About 30 percent of the studies contained military billets, and nearly two-thirds of the studies were competed at locations that had at least one other competition previously. Only a small number of the competitions contained at least one utility—about 5 percent—and only about 3 percent of the studies did not receive any satisfactory private sector bids.

We placed competitions into one of three categories: 1)studies with only one function code, 2) studies with multiple function codes, or 3) a whole base competition—designated with CA function code P100 in the CAMIS files. We group studies in this manner to examine the effects of combining studies without making a subjective determination as to whether a study was indeed a single- or multiple-function competition. One drawback to this approach is that it limits the ability

Table 9. Description and mean value of the variables used in the regression model

Variable	Description	Mean
RUR_URBA	1 if competition is not within an MSA; 0 otherwise	0.22
PCTMIL	Ratio of military billets to total billets competed	0.12
UNIQ_STS	Number of unique UICs	1.07
LNBS	Natural logarithm of number of baseline billets	2.83
LNBS2	Square of the natural logarithm of number of baseline billets	9.60
MIL	1 if competition contains military billets; 0 otherwise	0.30
PRECOMP	1 if previous competition conducted at UIC; 0 otherwise	0.63
NOSAT	1 if no satisfactory private sector offers were received; 0 otherwise	0.03
UTIL	1 if study contained a utility; 0 otherwise	0.05
BOS2	1 if study contained multiple functions; 0 otherwise	0.18
BOS3	1 if study code was CA function code P100; 0 otherwise	0.02
COMP2	1 if study was conducted by the Air Force; 0 otherwise	0.37
COMP3	1 if study was conducted by the Marine Corps; 0 otherwise	0.02
COMP4	1 if study was conducted by the Navy; 0 otherwise	0.38
COMP5	1 if study was conducted by a Defense Agency; 0 otherwise	0.03
SOL2	1 if study was restricted to SBA 8(a) set-aside; 0 otherwise	0.04
SOL3	1 if study was restricted to other small business; 0 otherwise	0.01
SOL4	1 if study was not restricted to small business; 0 otherwise	0.34
LN77	Natural logarithm of time trend	1.76

to decompose the effect of various combinations of functions on potential competition savings. We expect that economies of scale or scope would be less likely when combining functions that are unrelated than when combining functions that are related. For example, fewer economies would be available when combining intermediate aircraft (CA code J501) with family services (CA code G904) than when combining it with intermediate maintenance of aircraft engines (CA code J502).

The mean values indicate that most studies—about 80 percent—included only one function code. Only 2 percent of the studies were designated as P100.

Regression results

Table 10 provides the full regression results for the heteroskedastic Tobit regression model. The coefficients in a Tobit model indicate

the expected effects on the dependant variable if the censoring were removed. Since the process that led to the censoring still exists, we examine the expected effects on observed savings and calculate marginal values using the regression coefficients and the correction for heteroskedasticity. The coefficients are evaluated at the mean of the other variables. Here, we discuss several key variables not described above.

Table 10. Full regression results

Variable	Coefficient	Standard error	P-value
Constant	-0.177	0.042	0.00
RUR_URBA	-0.035	0.014	0.01
PCTMIL	0.107	0.032	0.00
UNIQ_STS	-0.008	0.011	0.46
LNBS	0.152	0.021	0.00
LNBS2	-0.014	0.003	0.00
MIL	0.054	0.018	0.00
PRECOMP	-0.014	0.014	0.32
NOSAT	-0.150	0.030	0.00
UTIL	-0.044	0.024	0.07
BOS2	-0.033	0.015	0.03
BOS3	-0.054	0.027	0.04
COMP2	0.042	0.017	0.01
COMP3	0.041	0.046	0.37
COMP4	0.000	0.017	0.98
COMP5	0.070	0.038	0.07
SOL2	-0.089	0.029	0.00
SOL3	-0.100	0.044	0.02
SOL4	-0.012	0.013	0.36
LN77	0.061	0.011	0.00
Log likelihood: -236.18		Proportion with no savings:.21	

Satisfactory private-sector bids

The variable NOSAT is an indicator variable for those competitions where no satisfactory private-sector bids were received. This designation in CAMIS includes studies where no bids or offers were received and instances where all bids received were deemed not responsible.

The coefficient indicates that not receiving a satisfactory private-sector proposal significantly reduces potential competition savings—by about 12 percentage points, holding all else constant. This supports previous findings that competition is the main driver for realizing savings during an OMB circular A-76 competition. DoD should place additional emphasis on ensuring that each study is packaged appropriately and advertised sufficiently to maintain private sector interest.

Small business

We include several indicator variables to control for the effects of restricting a competition to a small business. The excluded variable group studies were restricted to small businesses. The coefficient on SOL4—the indicator variable for unrestricted competitions—is negative but statistically insignificant. This indicates, on average, competitions that were not restricted to small business did not realize higher savings than those that were restricted. In other words, the small business restriction did not affect potential competition savings.

Workforce composition

The variable controlling for the composition of the workforce—MIL and PCTMIL—are both positive and statistically significant which indicates that both increase potential competitions savings, holding all else constant. The coefficient on the proportion of the workforce that is military personnel indicates that changing a study from an all-civilian to an all-military workforce increases potential savings by about 11 percent at the mean of all the other variables. Including at least one military billet in the activity increases the percentage savings from the competition by about 5 percentage points, all else held constant.

Appendix C: Methodology

To estimate the cost savings from large, multi-function, multi-site competitions, we selected 16 competitions that had been competed between 1996 and 2000. Our intent was to be able to review the full and actual costs to perform these functions for at least one year of the solicitation period specified in the A-76 competition.

This section outlines the methodology used in our assessment of costs, as well as all caveats and assumptions, and discusses all problems and limitations to the data available. Our approach covers the following steps:

- Competition selection
- Data collection
- Data analysis.

Competition selection

Criteria

Time frame: 1996 to 2000

All of the competitions we examined were completed between 1996 and 2000. We selected this time period for a variety of reasons that included:

- Selection of functions that were likely to be prevalent in future competitions
- Review competitions using the most recent revision of OMB Circular A-76
- Availability of the greatest number of individuals who were involved in the competition process;
- Availability of at least one full year of operational data to review.

Competitions with 100 or more FTE's

Because there was no uniform definition of a Base Operations Support (BOS) competition, we selected our sample of 16 competitions from multi-function or multi-site competitions that have 100 or more FTEs when they were announced. However, it should be noted that subsequent to announcement, several of our sample decreased in size and on occasion the final number of FTEs was less than 100.

Balance between contract and in-house wins

We chose functions that had a history of both contract and in-house wins so we could identify any differences in cost and performance trends.

Functions that have some relevance for future competitions

For the most part, we selected competitions whose functions were representative of the current competitive sourcing inventory so that their examination would have relevance for future competitions.

Component representation

We selected competitions from each Service and at least one defense agency.

Telephone screening

Before we visited an installation to interview personnel and review documents, we first called the installation to ensure that the relevant documents would be available. This initial screening eliminated several competitions because the appropriate personnel were no longer available to be interviewed or because we could not arrive at a mutually satisfactory time to visit the site.

Data collection

Installation interviews

After telephone screening, we visited installations to conduct interviews and collect competition data. During these visits, we interviewed installation personnel that routinely came in contact with the

function that had been competed—functional managers; quality assurance evaluators; customers; and, if the competition was a contract-win, contracting personnel and the contractor. We used a structured interview form designed to gather information on both competition cost and performance. The goal of the interview process was to gain an understanding of:

- The tasks being conducted within the function and what tasks, if any, differ from traditional perceptions (i.e., identifying any unique characteristics of the function)
- The history of the competition. Whether there were any specific problems with the cost comparison or competition process, any protests, and the number and types of bidders
- Any major changes in how the function was provided pre- and post- competition
- The major changes to workload during each solicitation period
- The major changes to scope during each solicitation period
- The major one-time cost changes during each performance period
- The quality of the performance of the function and whether performance has changed during the period of performance
- Any additional costs to the government not identified in the cost comparison or contract documentation.

Documentation review

During each site visit, we reviewed all available documentation on the cost and performance of the function. Documentation review included: the competition documentation (PWS, cost comparison, correspondence, bids, and protests) and all post-competition contracts, modifications and purchase orders (if contract-win), budgets, audit and manpower reports (if in-house win), and performance reviews. We also obtained relevant workload information if it was available.

Supplementary data

In addition to the site visits and interviews, we obtained additional data to verify and augment the data collected at the installation. This supplementary data included audit reports, data from Service-wide information systems, and private-sector cost data on comparable functions.

Data analysis

Once we had gathered cost and performance data on the selected competitions, we analyzed them to determine whether actual costs were greater or less than originally estimated and if performance met the level specified in the competition. The goal of this analysis was to examine whether the expected level of savings from A-76 competitions was achieved and maintained without impact to the quality of services provided.

Tracking cost changes

Pre- and post-competition costs

To determine the expected level of savings from A-76 competitions, the annual costs of a function post-competition must be isolated and tracked over each solicitation and compared with pre-competition costs. To have an accurate comparison of the *full* pre- and post-competition costs, components of cost must be isolated and defined.

- *Pre-competition costs.* Throughout this study, comparisons are made between a function's annual costs and its pre-competition, or baseline costs. In the past, estimates of baseline, costs have come under criticism, stating that baseline cost estimates per billet are too high. To address these concerns, we have used the MEO cost per billet (as reported in the cost comparison) and applied this ratio to the pre-competition billets to estimate baseline costs. This provides a more conservative estimate, and assumes that the cost per billet, both pre-and post competition, is the same.

- *Post-competition costs*. Post-competition costs include the total direct cost of providing the service plus any indirect costs to the government. The direct cost of providing a service is the contract price in the case of a contract win, the cost of meeting the MEO for an in-house win. Indirect costs include contract administration costs, one-time conversion costs (amortized over the first solicitation period), and any other costs. All calculations of post-competition cost include both the direct and indirect cost of providing the function.

Tracking post-competition costs

The total costs estimated on the cost comparison form for each year in the first solicitation period do not actually correspond to what was spent on an annual basis. Changes in the demand for a particular function, as well as changes in which tasks should be conducted, are constantly changing. However, these changes are not part of the A-76 process. These changes would have occurred whether or not the function was ever competed. By isolating the components of total costs, we can track cost increases or decreases and determine whether changes would have occurred if the competition had never been conducted. Therefore, to evaluate contract costs, we looked at the funds available for each year of the contract and tracked the modifications made during the year. For in-house wins, we tracked annual costs from budget and manning documents with estimates for the impact of changes during the year. Each of the components that impact annual cost are outlined below:

- *Scope changes*. Scope changes are defined as increases or decreases in the set of functions defined in the PWS. Examples include adding facility painting to a maintenance contract that was limited to minor repair, thereby eliminating the self-help stores from a supply contract. If a scope change occurs in the first year of a contract, the funds made available for all subsequent years of the contract can reflect the increased or decreased scope.

- *Workload changes*. Workload changes are defined as the increase or decrease in the level of effort required under the PWS. Examples include increasing the number of improved acres in

a grounds maintenance contract or decreasing the number of passenger vehicles maintained in a vehicle maintenance contract. After a workload adjustment occurs, the funds made available for all subsequent years of the contract can reflect the impact of the workload change.

- *One-time cost changes*. One-time cost adjustments are defined as a scope or workload increase that impacts only the current year of the contract. For example, one installation suffered significant damage from a hurricane. The facility maintenance and grounds maintenance contracts at this installation were modified to increase the workload, or level of effort, to clean up the debris and re-build. However, the funds available for subsequent years were not increased because the workload was not expected to continue.

- *Wage determinations*. Throughout the period of performance, Department of Labor or Service Contract Act wage determinations will increase labor rates and, therefore, the annual cost of the contract above what was originally bid. Wage determinations will affect not only the current year of the contract but all subsequent years as well. In the case of in-house wins, wage increases are also calculated.

- *Cost adjustments*. For contracts that include labor and materials, there can be adjustments to the unit cost of materials as the contract period moves forward. For example, increases in fuel costs will increase the costs of performing shuttle services under a vehicle operations contract. This type of cost increase would affect the cost of providing this function whether or not the function was performed via in-house or contract workforce. We have assumed that a unit price increase or decrease will continue throughout the contract period.

- *Labor augmentation*. For certain contracts, particularly those with significant performance problems, government labor may be used to augment the provision of contract services. Through interviews with customers and management, we estimated the size of this workforce and developed fully burdened rates for this labor on an annual basis. In other cases, the total number

of personnel involved with management of the function was larger than estimated in the cost comparison. Through interviews, we also estimated the fully burdened cost of this additional labor force.

Comparing costs and savings

The annual costs of a function are the funds made available to conduct that function at the start of the fiscal year, plus or minus adjustments made during the year and, for contract wins, the total costs to the government from contract administration and management including QAEs. These are the annual costs observed by the government for the provision of the function.

To determine how these costs compare with what was "bid" in the cost comparison relative to the original PWS, adjustments for changes in workload, scope, unit cost and wage changes must be accounted for not only in the year in which they occurred but for all subsequent years as well. To this end, if a scope increase of $50,000 occurs in a given year, it is expected that the funds made available for all remaining years will be $50,000 higher than what is projected in the cost comparison form.[1] This increase in cost reflects the provision of additional effort, not an increase in the cost of providing the original functions defined in the PWS. Therefore, to ensure an apples-to-apples comparison of the cost of providing the original set of functions, the $50,000 for additional workload would be subtracted out of the funds available for each subsequent year of the contract.

To determine the savings achieved for the 16 competitions, we evaluated and compared costs and savings from three perspectives: *expected, observed, and effective*. Using this approach allows us to separate and evaluate the costs of meeting the tasks described in the original PWS, and the impact on costs from changes in scope, workload, and other adjustments.

1. Adjustments that are made mid-year are annualized for all subsequent years (e.g. it is assumed that a $20,000 scope change impacting 6 months of a given year will impact each subsequent year by $40,000).

Definition of terms and method of calculation

Definitions of the terms we used and method of calculation follow:

- *Expected costs* are defined as what the government expects to pay for the provision of a commercial function after a competition is completed (e.g., the price of the winning bid plus all administrative costs to the government). *Expected savings* are estimated as the difference between what the government expects to pay and the pre-competition costs of providing the function. *Expected costs* and *savings* are forecasts based on the winning contract or MEO bid at the time of competition and can be incorporated into out-year budget decisions.

  The expected cost is given by the following formula

  $$XC_t = C_t + A_t, \text{ where}$$

  XC = Expected costs. The annual costs the government expects to pay for a given year
  C = The total winning contract bid (or MEO) for a given year
  A = The total administrative and other costs to the government as reported on the cost comparison form for a given year. (Note: one-time conversion costs are annualized across the first solicitation period).

- *Observed costs* are defined as what was actually spent by DoD for the provision of services. Observed costs include increases or decreases to annual costs from changes in scope, workload, wages, and one-time cost adjustments. *Observed savings* are the difference between the pre-competition annual cost to the government and the actual or observed costs of that function after the competition was completed.

  The observed cost is given by the following formula:

  $$OC_t = F_t + A_t + S_t + D_t + O_t + W_t + P_t + L_t, \text{ where}$$

  OC = Observed Cost. The annual cost the government is required to pay for a given year
  F= Actual funds made available for a given contract or MEO at the beginning of a given fiscal year
  A = The total administrative and other costs to the government as reported on the cost comparison form for a given year. (Note: conversion costs are annualized across the first solicitation period).

S = Total annual increase or decrease in cost due to scope changes for a given year.
D = Total annual increase or decrease in cost due to workload changes for a given year
O = Total annual increase in cost due to one-time cost changes for a given year.
W = Total annual increase or decrease in cost due to periodic changes in wage rates proscribed by the Department of Labor or the Service Contract Act.
P = Total annual increase or decrease in cost due to changes in the unit cost of materials.
L = Total annual increase in cost due to labor augmentation for a given year.

- *Effective costs* are defined as the estimated cost to DoD of providing the *same set* of services as originally identified in the cost comparison. Effective cost estimates exclude cost changes that would have occurred whether or not the function was competed. For example, in one competition the *observed* costs of providing services increased by over 15 percent from 1991 to 1992. This increase was due to additional workload needed to support our military in the Persian Gulf. This type of increase in workload, and therefore cost, would have occurred whether the necessary services were provided via contract or through in-house labor. Therefore, the *effective* costs for 1992 would be adjusted to remove these one-time costs. By adjusting the data to exclude workload, scope, wage, and one-time costs, effective cost estimates allow us to compare changes in cost while keeping the original scope constant. Effective savings are defined as the difference between the pre-competition annual cost to the government and the effective cost that function after adjustments are made. Comparing *effective* and pre-competition cost estimates provides insight into true cost growth or savings.

  Based on the observed cost and expected cost formulas above, the effective cost is given by the following formula:

$$EC_t = OC_t - \sum_{i=1}^{t} (S_i + D_i + W_i + P_i) - (O_t + L_t)$$

where the effective cost (EC) for a given year is equal to the observed costs of the function less the cumulative impact of all scope, workload, wage and price adjustments occurring since contract inception and less the one time cost changes and labor augmentation for the year of calculation only.

Effective costs are the most meaningful indication of whether an A-76 competition was successful in producing real and sustained savings because they identify the costs of providing the same scope of work over time. However, it is also important to examine changes in observed costs because, historically, these are the types of costs people have looked at when examining the worth of the competitive sourcing program.

Caveats and assumptions

During our analysis, we had to make some assumptions in isolating such factors as the effects of scope or workload changes, the amount of contract administration or augmentation of contract labor by government labor, or minor discrepancies between authorized and expended funds. In all cases, we chose to be conservative and decided in favor of the alternative that would limit rather than increase savings.

Scope and workload changes versus one-time cost increases

It was sometimes difficult to determine the difference between these two changes. When in doubt, we tried to guess conservatively—deciding in favor of a scope change rather than a one-time change. However, if it was in fact a one-time change, then future years adjusted (effective) costs will be lower than we show them.

Baseline costs

If the baseline FTE billet estimates provided by the Services are for a different set of functions than was in the PWS, baseline estimates will be wrong. This will impact savings estimates provided later in this study. We have assumed baseline billets are correct and for the same set of functions in the PWS.

Labor augmentation

These estimates were based on estimates provided to us during our in interviews with relevant personnel and customers. To our knowledge, there are no documented data in this area.

Annualizing costs

If there is a modification to a contract or the MEO that occurs 6 months into the solicitation period, then we doubled the cost of the modification for subsequent years. However, certain modifications occur mid-year but actually cover the full year. We have tried to be conservative in our estimates, and identify as many of these situations as possible. A good example of this type of modification is in the grounds maintenance area. If a scope change occurs in January, well before the growing season, the cost change is most likely for the whole year, and we have treated it as such.

In-house wins

Because changes in staffing typically were not tied to specific changes in scope or workload, it was not possible to evaluate *observed* or *effective* costs and savings for the in-house wins in our sample.

Wage changes

We have assumed wage changes to contract labor would have occurred at similar levels. Although we would have preferred to evaluate the difference in wages between contract and in-house workforce, there were many instances where wage determinations were coupled with other scope or workload adjustments. Therefore, we could not isolate changes in wages from the impact of other changes.

Appendix D: A case study

As we mentioned at the beginning of this section, there was one competition for which many of the officials we interviewed declined to rate the provider's performance. This competition covered all the major functions at the installation and was extremely large. At the time of our review, they were in delicate and ongoing contract negotiations. As a result, the officials were uncomfortable providing ratings that might be different than the official performance evaluations. For this reason, we excluded it from the analysis above, and are examining it separately.

According to official quarterly performance evaluations at the time of our examination, the contractor is performing 17 out of a total of 21 functions, or 81 percent, at a good to excellent level. However, this seemingly good rating belies the level of tension, frustration, and dissatisfaction that both government and contract representatives feel. The competition has been plagued from the beginning with a number of difficulties, some of which the installation is trying to overcome over a year after the start of the contract performance. The principal difficulties include:

- Change in mission
- Poor workload data
- Differing expectations between the contractor and base personnel
- Lack of sufficient experienced people to perform all of the functions
- Short transition period.

During the competition, the prevailing view was that the installation's importance to the Service, and thus its workload, would continue to diminish over time and that the installation might eventually be

closed. Potential contractors, for example, were asked to address how they would scale down operations in their proposals. As a consequence, the PWS requirements in the solicitation were less than those being provided at the installation during the competition. Shortly after the decision was made to convert the functions to contract, the installation's strategic importance to the Service was increased significantly. Instead of eventual closure, the installation has been given additional mission responsibilities and workload has increased substantially. There was no corresponding adjustment to the contract, and the fixed price nature of the contract makes it difficult to do so.

The change in strategic importance was exacerbated by two additional factors—poor workload data in the PWS and differing expectations of headquarters, installation, and contract personnel. Once the transition began, the contractor found that the workload data on which it had based its proposal were incomplete, inaccurate, and outdated. Poor workload data combined with a changing mission made it difficult for the contractor to accurately predict what needed to be done.

The competition was conducted by headquarters personnel. Because the prevailing view was that the installation was likely to close, they developed a PWS with a lower level of service than was currently being performed. The headquarters personnel did not effectively communicating these differences to the installation personnel who were to manage the functions after the competition was completed. The installation personnel expected to continue the same level of performance, and in much the same manner as it had prior to competition. These different levels of expectation made the transition difficult and created tensions between the installation personnel and the contractor that continue to persist. As a consequence, there is a tendency for installation personnel to expect a performance level that is as good or better than it was before competition, while the contractor is strictly and narrowly interpreting the performance requirements in the contract in an attempt to keep costs down.

The winning contractor had 90 days to make the transition to full performance. During that time, the contractor had to interview employees and make job offers, familiarize themselves with the installation

and the operations that they were taking over, and to inventory the equipment that was being transferred to the contractor. Because a large number of employees accepted priority placement program offers for jobs far from the installation and the local labor market did not have many skilled workers, the contractor found it very difficult to hire sufficient numbers of people. As a consequence, it spent the majority of the transition period trying to hire employees and was not able to adequately shadow the government operations or meet its own milestones. The contractor has had to bring some of his employees from other locations to make up for the lack of qualified personnel locally. Many of these employees were sent on a temporary basis, but are still in place over a year later.

The inability to hire sufficient numbers of experienced government personnel denied the contractor access to historic information and sharply increased his learning curve. The contractor's representatives stated that a 6-month transition period would have been more appropriate considering that the competition encompassed more than 20 functions. The installation's contract personnel agree that a longer transition time would have helped the contractor, but believe that the customers would have been very unhappy.

Although the contractor was willing to increase his level of support to meet the new requirements and increased workload, he believes that he cannot accomplish it within the scope of the current fixed-price contract. At the time of our review, both the Service and the contractor were addressing the changes needed to clarify performance requirements and reflect the differences in expectations, and expected to make the necessary contract modifications.

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