

REMAINING ISSUES IN ADOPTING COMMERCIAL PRACTICES IN DEFENSE ACQUISITION

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In an era of decreasing military budgets and changing enemy threats, there has been a change in the priorities associated with defense acquisition. During the Cold War the emphasis was on high performance and schedule. Today, the focus is increasingly directed at affordability. Although the military acquisition budget is down 70 percent from its 1985 peak, the Department of Defense (DoD) continues to have requirements for new systems and upgrades to old ones. By necessity, the DoD is turning to the commercial market. The emphasis both within and outside the Defense Department is to use more commercial products and commercial practices in meeting military requirements. This acquisition strategy is seen as a way to reduce costs and shorten lead times. In addition, the problems associated with a decreasing defense industrial base become less acute if there is a strong and willing commercial base on which to draw.

Commercialization goals have been facilitated with the passage of the Federal Acquisition Streamlining Act (FASA), the Federal Acquisition Reform Act (FARA) and the current preference for performance and industry specifications over military specifications (MIL specs). While these reform activities have made both major and positive changes to the government's procurement system, a number of complicating issues remain.

We must recognize that the defense procurement system, in part, differs from its commercial counterpart because it was designed and modified to address a number of legitimate, government-unique concerns. These differences, however, now serve to inhibit the adoption of many commercial practices. As acquisition reform continues, we need to revisit why we have government-unique practices in the first place and if the underlying conditions necessitating unique government practices have, in fact, changed. We must determine what are the systemic differences that complicate or preclude the full adoption of commercial practices. The next step is

to see if these differences can be overcome (or at least mitigated). Without this information, we may be expecting more from acquisition reform than is realistically possible.

Much has been written about the differences between government contracting and the commercial counterpart. However, little has been written on why those differences exist. If the government simply wanted the best quality products and services and was willing to pay the prevailing market price, acquisition reform would be a relatively easy task. There are, however, a number of underlying issues (systemic, cultural and product differences) which complicate the adoption of a commercial procurement system by the DoD.

SYSTEMIC AND CULTURAL DIFFERENCES

Public vs. Business Administration. Personnel in Government have the responsibility to protect the public trust. Part of this trust is fiduciary and leads to DoD procurement practices that allow close scrutiny by Congress, oversight agencies, the media, and watchdog interest groups. The need for strict accountability of federal funds has resulted in a number of practices very much at odds with those found in the commercial world. While the private sector finds US currency acceptable for all debts, public and private, the DoD ironically does not. The DoD has a different “color of money” depending on what it is buying. One type will be for R&D, another type for production, one for construction and another for operations and maintenance. This “stove-piping” of money at the Congressional and Pentagon level provides a control mechanism that minimizes the misuse of funds. Unfortunately, this process complicates DoD procurement by taking flexibility away at the execution levels of management.

In addition to the “color of money” issue, DoD money will “expire” after a certain period of time if it is not used. This situation leads to a great deal of volatility in the defense procurement process with a massive surge in buying at the end of the fiscal year. The goal is to spend to the pre-established yearly funding profile. Under running may even have negative consequences. The frugal organization that has funds left over at the end of the fiscal year may not only lose those surplus funds, but find its budget decreased (by that same amount) in the following year. The DoD’s procurement system operates in a “public administration” environment. In contrast, the

commercial sector operates in a “business administration” environment, where under running is both encouraged and rewarded.

Fairness. As a result of numerous abuses in the past, the Government has a noble objective to be fair in all of its dealings with suppliers. Unfortunately, this objective frequently becomes counter-productive. For example, in the interest of fairness, the government allows any “interested party” to protest. This outgrowth of fairness permits a stream of protests that frequently result in a costly paralysis of the procurement system. The preoccupation with competitive fairness hinders the use of innovative long-term supplier partnering arrangements. In the commercial sector, the prevailing attitude is: *Who said business was fair?* A private firm can choose with whom it wants to do business, to what degree, and for how long. Consequently, the private sector rarely has to deal with protests as the DoD does. A commercial supplier knows better than to protest. To do so will result in their being “blacklisted” throughout the industry.

Imposing Policies. The objective of the Defense procurement system goes beyond simply buying goods and services for the military. The procurement system is frequently used as a vehicle to further federal social and economic policy. It is used to promote US businesses over foreign businesses and small businesses over large businesses. These and other secondary socio-economic goals are costly in terms of the infrastructure necessary for administration and because of the premium prices that frequently result.

If our national leaders feel that these secondary goals are a desirable function of the defense procurement system, they should also realize that trade-offs will have to be made in order to achieve them. Given these constraints, it will be more difficult for the defense procurement system to mirror the economies and efficiencies of a market driven procurement system.

The commercial marketplace is a complex mix of both domestic and international participants. Consequently, when a commercial firm seeks a world-class supplier, the really important considerations include price, quality, performance, delivery, capacity, and assurance of supply. If the supplier can meet these requirements, it really does not matter what size the company is, where it is located, or who owns it.

Market Forces. The defense market is very different from its commercial sector counterpart. The DoD is frequently the only customer for a product. Also, since the DoD is a final consumer, it does not buy-to-sell a product or service as do all commercial firms. In addition, DoD agencies are non-profit and do not have the threat of bankruptcy to force efficiencies into the procurement process. As a result, the DoD sector has fewer market forces at work on its procurement system.

The commercial sector has a built in mechanism that prevents it from paying too much for goods and services. It is called international competition. If they do not buy wisely, the market place is unforgiving. In the defense sector, there is no such price control mechanism. The DoD is an ongoing entity, no matter how inefficient it is. Under these conditions, the objective is to find a way to control cost in a system where there is no fatal penalty for poor procurement practices.

The Truth in Negotiations Act (TINA) and the government Cost Accounting Standards (CAS) sought to address this inherent problem. TINA and CAS, in essence, serve as surrogate market forces for the defense sector. Most commercial firms want no part of TINA or CAS. They view cost and pricing data as proprietary and key to their competitive advantage. Commercial firms see CAS as a redundant government accounting system that requires a costly infrastructure to install and maintain.

Risk. Mistakes made in the defense procurement system are newsworthy. Unfortunately, isolated incidences frequently result in “punishment of the innocent” laws to make sure these mistakes never occur again. This potential for post-mortem second guessing by oversight agencies and the media makes it safer to err on the side of conformity than to show initiative in adopting cost saving commercial practices. The Defense Department by no means has a monopoly on mistakes and poor judgment. The major difference is in the way mistakes are resolved. In the private sector, mistakes are corrected internally without fanfare. The opposite is true in the DoD.

If the DoD is to move from a risk averse to a risk management procurement system, there must be an incentive to do so. The two major drivers for change in the private sector are financial reward and survival. These two incentives are, for all practical purposes, absent from the DoD procurement system.

Customer-Supplier Relationships. Many commercial firms are fully capable of meeting military requirements, but for a number of reasons, many commercial firms are reluctant to do business with the DoD. Defense customers come with a reputation for excessive oversight, compliance, and reporting requirements. Although these companies are willing to provide commercial products to the DoD on normal business terms, they are unwilling to change their internal operations to produce small quantities of military products.

As the single buyer in the defense market, the DoD had significant leverage over the defense industry. In the post-Cold War era, the traditional defense industrial base is decreasing in both size and capability. As a result, the DoD is increasingly turning to the commercial sector to meet its security requirements. In this new environment, the DoD is no longer in a position to dictate terms and conditions to its suppliers.

For commercial firms, competitive markets are the driving force leading to efficient internal operations. It is rare for a small customer to dictate terms and conditions that change the internal operation of another firm. On occasion, suppliers will make special arrangements for preferred customers, that is, those that show a significant long term commitment. However, few commercial firms would put the DoD in this preferred category.

Purely commercial firms have managed successful businesses without DoD customers. And, since DoD business is not viewed as a big money-maker, these commercial firms are not motivated to pursue DoD work. In spite of the extensive acquisition reform that has taken place, many commercial suppliers still see the DoD as a difficult customer. The instability of requirements and budgets, the government's right to terminate contracts at will, the potential for a protest, and the penalties that result from failing to comply with a government procurement regulation all render the DoD customer undesirable. Many commercial world-class manufacturers do not even read the *Commerce Business Daily* (CBD) when seeking new work. Whether these barriers are real or perceived, the DoD must work very hard to overcome them to establish its own "past performance" track record as a trusted and reliable customer.

PRODUCT DIFFERENCES

Besides the systemic and cultural differences that exist between the defense and commercial procurement systems, there are significant product differences as well. Military products differ from commercial products primarily in terms of performance requirements, production volumes, and service life.

Performance Requirements. The commercial approach to design is price and quality oriented, often at the cost of performance extremes. The smaller the performance operating band, the lower the price will be for that item. In contrast, military requirements have traditionally emphasized performance. A system must be able to operate in Antarctica one day, in the deserts of the Middle East the next and in the humid jungles of central Africa on the following day. Commercial parts are more generic and frequently not tested for defense systems with high performance requirements.

The more military designs deviate from commercially available ones, the more costly they are and the less likely there is a commercial solution (see Figure 1). To increase affordability, the establishment of military requirements needs to go hand in hand with a thorough understanding of the commercial products and technologies that are available. A more practical approach to design considers cost and quality more important than performance at extreme environmental conditions (that is, temperature, humidity, shock and vibration). The trend, to date, suggests that designer of DoD systems should consider a three-way tradeoff among performance, cost and commercial availability.

Production Volume. The Cold War defense market was geared for a high cost, low volume production environment. The commercial sector, in contrast, focuses on high volume, low cost production. High volumes allow economies of scale and efficiencies unachievable with low rate military production. High volume commercial manufacturers maximize drop rates and equipment utilization to make their products very price competitive. Many manufacturers have established minimum order quantities below which production of a product is not cost effective. DoD volume requirements are typically below this level. Some manufacturers will not accommodate small orders at any cost, others will - at a premium.

In this era of lean and flexible manufacturing, suppliers are learning how to efficiently move toward the theoretical “lot size one.” This allows unique customer needs to be met without sacrificing line efficiency. The DoD can benefit from this approach as long as a design for manufacture (DFM) philosophy is employed. DFM, in conjunction with flexible manufacturing, is a commercial best practice and an enabler for DoD to leverage existing high quality, efficient manufacturing lines.

Cost and Pricing Issues. For commercial items, it is assumed that market forces will ensure a fair and reasonable price. When the DoD takes advantage of existing commercial-of-the-shelf items (COTS), it benefits from a very competitive domestic and international market. However, when the DoD turns to the commercial sector to meet its military-unique requirements, pricing becomes a major challenge that severely complicates access to the commercial sector. DoD buyers, in many respects, have a more difficult pricing task than their commercial counterparts. While there are many pricing tools available, most are based on some type of comparison (similar items in catalogs or with a standard market price). These comparison pricing techniques are not readily adaptable to military-unique or even “commercial-like” items made in small quantities. The non-recurring costs are distributed over just a few items which very much distorts any comparison pricing technique. As stated earlier, the more divergent the military item is from a commercial item, the more difficult the pricing problem.

This new environment shifts the emphasis from cost analysis to price analysis. Price analysis places more responsibility on the contracting officer relative to cost analysis. Without supplier provided data, the onus for determining a fair and reasonable price now lies with the government buyer. Certified cost and pricing data will no longer be there to provide cover for the contracting officer’s decision. In addition, price analysis is less concrete and more susceptible to second guessing when compared to cost analysis. To mitigate this problem price analysis requires a close teaming arrangement between the government buyer and engineer. In addition both parties require better training in market research and price analysis.

FASA and FARA greatly expanded the definition of what constitutes a commercial item. Many in the acquisition community are having second thoughts over this particular reform initiative in view of the increasing number of procurement horror stories reminiscent of the 80s.

Their concern is misplaced. We have a pricing problem, not a definition problem. Simply calling an item “commercial” does not absolve responsibility for determining that the price is fair and reasonable. It is incumbent upon the contracting officer to take steps to verify that the price is, in fact, fair and reasonable. There is no turning back to the days when suppliers provided reams of cost and pricing data to support their offer. Unlike the defense industry, commercial firms are unwilling to comply with DoD cost or pricing disclosure requirements. They view such information as proprietary and key to their competitive advantage. They do not want to provide this kind of data to accommodate what may well be a *small*, one time-customer like the DoD.

Supportability/Obsolescence. In the commercial sector, firms have learned to deal with obsolescence in various ways. Technology in electronics is changing rapidly, so designs are upgraded at an appropriate rate. In the automotive industry, platform changes coincide with technology upgrades, and parts are designed to last the life of the vehicle. Supportability for DoD systems is much more difficult because systems are designed for much longer life spans and the trend shows that systems are often required to stay in service well beyond the original design. For example, a recent congressional study found that the Air Force will need about 66 B-52s through the year 2030. This represents 70 years of service.

Parts obsolescence occurs for DoD systems either because of technology changeover or, in the case of military unique requirements, because there is no supplier available. Approaches to anticipating obsolescence and managing it are currently being studied. In the development of new systems and upgrades, obsolescence will be proactively considered. These approaches, however, do little to address support issues in legacy systems.

Liability and Warranties. The issues surrounding liability and warranties are very much interrelated. In the commercial sector, it is common practice to include the liability risk in the price of the product. This is spread over thousands, hundreds of thousands, or even millions of units. The liability associated with small quantities of military products is less defined and brings potentially higher risk for the commercial firm. The increasing use of performance specifications as opposed to MIL specs shifts the liability issue away from the DoD to the commercial designer and producer.

In the case of warranties, the government has traditionally self-insured because its large resources made protection against catastrophic loss unnecessary. Frequently, the DoD is the only buyer for a product and is, as a result, unable to share the insurance cost with other buyers. Since a contractor cannot allocate the cost of insuring against the risk of failure among multiple buyers, the DoD is forced to bear the entire estimated warranty cost. In this new era of austere defense budgets, the DoD may be less willing to pay for warranties even when the commercial firm is willing to offer one.

Beginning in 1985, the Defense Authorization Act requires warranties on weapon systems that have a unit cost of more than \$100,000 or an expected total procurement cost of more than \$10 million. However, the GAO finds this requirement impractical since it does not provide the government with much in the way of benefits. The military services spend about \$271 million annually for weapon system warranties. These expenditures, to date, have resulted in a financial return to the Defense department of only about \$1 for every \$19 paid for a contractor warranty.¹

As the DoD increasingly turns to commercial products to meet its requirements, it must decide how it will address the warranty issue. The options include going with the existing commercial warranty, paying a premium to cover low-volume products with unique requirements or foregoing the warranty altogether in return for possible price reductions.

The Need For Change. Acquisition reform and a switch to commercial practices represent a significant and sometimes unwelcome change. In some cases, the adoption of commercial practices and the seeking of more commercial sources is a far more labor intensive form of acquisition relative to pre-reform days. Contracting personnel now need to develop solicitations based on detailed market research and on actual commercial practices which vary significantly from industry to industry. Market research is time consuming and requires extensive technical understanding of products, services, and industries. Furthermore, the burden of accommodating terms and conditions shifts from the contractor to the defense customer and requires a great deal more homework. For those who have spent their careers mastering the government-unique procurement system, learning to buy like the commercial sector is a daunting task.

Nevertheless, if the DoD is to fully capitalize on the extensive acquisition reform that has taken place, there must be a matching cultural change in the defense acquisition work force. This

prerequisite for reform has been very slow in coming. Defense acquisition practices and culture have been evolving apart from the commercial sector for decades. Change needs to pervade not only government organizations but the prime contractors and traditional defense suppliers as well. This impacts practices throughout the enterprise, including contracting, pricing, quality, design, and manufacturing. Given that the size of the defense work force has dropped at a faster rate than the workload, change and innovation must be led by upper management and be incentivized.

EVOLVING TOWARD A COMMERCIAL-LIKE PROCUREMENT SYSTEM

More has been done for acquisition reform and commercialization in the last two years than in the previous twenty. However, to declare completion of acquisition reform at this point would be premature, given the number of difficult issues that remain. Full implementation and acceptance of acquisition reform will take a very long time.

What acquisition reform has done is laid the groundwork for commercialization. Many barriers to more efficient procurement have been removed. Indeed, the conversion to reliance on industry standards from military standards is well underway and methods for contract streamlining are now more readily available. The next step, then, is to look at DoD as a customer and measure progress from a world class supplier's point of view.

Acquisition reform effectiveness, to date, has been measured using such DoD metrics as number of requirements eliminated. While reducing the number of pages of a proposal by 50 percent is significant from a DoD perspective, perhaps commercialization success should not be measured from a DoD perspective. Since the DoD is becoming a small customer, metrics are needed which measure the value of the DoD as a customer. For example, do DoD proposals reflect industry practices by using industry terms and conditions? Are world class commercial firms seeking defense work? Or are world class firms refusing DoD business, even when actively sought? What can the DoD do to attract world class suppliers? What can the DoD do to become a valued customer? A preferred customer? Answers to these questions should be objectively analyzed and, if the facts warrant, should be used to help shape future DoD acquisition policy, practices, and regulations.

Since the DoD's market share is decreasing, its leverage to attract quality suppliers is diminishing, and the importance of emulating commercial practices is growing. The defense manufacturing facilities for which it makes sense to continue funding still have much to learn from commercial industry in terms of efficiency. The potential to merge traditionally separate military and commercial production lines which produce similar items still exists. To date, the DoD has merely scratched the surface in its approach to leveraging high quality, high volume commercial production facilities for the manufacture of low volume military products. In any of these cases, the DoD must continue its efforts to be commercial-like in its acquisition practices, especially to expand its industrial base to include purely commercial firms.

Recognizing and addressing the inherent differences that exist between the defense and commercial procurement systems is a significant move toward cultural change. Future acquisition reform efforts should establish a defense procurement system which meets military requirements while incorporating characteristics for commercialization. First, it should remain sensitive to the fiscal and ethical responsibilities inherent in government procurement. Second, it should facilitate the production of both commercial and military-unique products in a single business unit without altering either their accounting systems or management practices. Third, it should give proper consideration to the customary practices of commercial firms when developing acquisition strategies and contracting arrangements. This includes adopting industry standards to define requirements and adopting a design-for-manufacturability philosophy. Next, it should encourage a cultural change that focuses on risk management rather than on risk aversion. This will require management support at all levels and better training of the acquisition work force in market research, pricing and other commercial procurement practices. Finally, steps should be taken to build on the strong foundation that has been established and follow through with these goals for future reform.

ENDNOTES

1. "GAO: Warranty Law Should Be Repealed," *Federal Contracts Reports*, Volume 66, 7-8-96. P. 29.

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[Editor's Note: Dr. Heberling is currently serving as the Functional Director for Commercial Item Acquisition (Under the National Vice President for Membership). The authors will be giving a presentation on commercial item acquisition at the 1998 NCMA World Congress on March 31, 1998, in Huntsville, AL. They would very much like to have your thoughts on the issues addressed in this article. Address your comments c/o Editor, Contract Management, NCMA, 1912 Woodford Road, Vienna, VA 22182.]