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Industry Study

Final Report

Private Sector Support & Services

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ABSTRACT: The Department of Defense (DoD) spends over 50% of its acquisition budget on services, and contractors play a critical role in U.S. military operations. This Industry Study Report finds that the Private Sector Support and Services (PS3) industry is robust and healthy, despite a recent tumultuous period of decreased demand, budget constraints, and market upheaval. While the DoD continues to refine and improve its acquisition of services, more work remains. This report assesses the PS3 industry, analyzes government policies and practices, and makes recommendations for continued improvement.

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INTRODUCTION

The private sector support and services (PS3) industry supported the United States military in every conflict since the American Revolution.[1] While PS3 support to the Department of Defense (DoD) is not new, it has become increasingly important in recent decades. A 66 percent reduction in troop strength from 1990 to 2000, combined with demands from contingency operations in Iraq and Afghanistan, resulted in increased reliance on defense contractors.[2] Today, PS3 represents 46-56 percent of the deployed operational workforce, with more than 50 percent of the current DoD acquisition budget spent on the critical services they provide.[3] The DoD's heavy reliance on the PS3 industry is unlikely to change in the foreseeable future, and contracts for services will remain not only a critical component to expeditionary, stability and reconstruction operations,[4] but also a key role in maintaining U.S. preeminence in defense technology and battlefield dominance.[5] Recognition of this criticality is reflected in the Undersecretary of Defense for Acquisition, Technology and Logistics (AT&L) initiative to conduct an ongoing Sector-by-Sector, Tier-by-Tier analysis to inform its Annual Industrial Capabilities Report to Congress.[6] Although the most recent Report in 2013 did not address any major concerns with the PS3 industry's ability to support DoD needs, the PS3 landscape is not without challenges posed by both the U.S. Government and the market itself.

This industry study report synthesizes information gathered from independent research, classroom instruction, domestic and international field studies, and interviews with U.S. Government and industry representatives. It analyzes and assesses the health of the industry and its preparedness to meet both current and future needs of the DoD. The report defines the PS3 industry, assesses the current condition of the industry, addresses challenges faced by the industry, projects the short and long term outlook of the future health of the industry, analyzes the government's goals and roles, and provides policy recommendations. The report also includes essays on major issues within the PS3 industry and the DoD.

THE INDUSTRY DEFINED

The PS3 industry represents a broad range of services acquired by the DoD and other U.S. Government agencies, and is rooted in law and policy. Title 10, United States Code section 2330 defines "contract services" as "all services acquired from private sector entities by or for the Department of Defense, including services in support of contingency operations. The term does not include services relating to research and development or military construction."[7] The Federal Acquisition Regulation defines "service contracts" as those "that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply. A service contract may be either a nonpersonal or personal contract. It can also cover services performed by either professional or nonprofessional personnel whether on an individual or organizational basis."[8] Broadly stated, the PS3 industry is that which supports DoD service acquisition needs, by means of service contracts, as provided for in law and regulation.

The PS3 industry provides wide ranging services to the DoD. On 27 August 2012, the Under Secretary of Defense for Acquisition, Technology and Logistics issued a memorandum titled "Taxonomy for the Acquisition of Services and Supplies & Equipment."[9] This memorandum organized the DoD's approach to services, breaking out services into nine services portfolio groups

and 40 services portfolios. While the PS3 industry supports all services portfolios, our industry study focused its research in four of the nine services portfolios: Electronic and Communications Services, Equipment Related Services, Knowledge Based Services, and Logistics Management Services. In all, the DoD categorizes services into 1,497 service codes, demonstrating the breadth of services acquired by the DoD and provided by the PS3 industry. Appendix A shows the portfolio taxonomy.

Firms within the PS3 industry are diverse. The PS3 firms range from government services divisions of large, publicly traded corporations to small businesses. In addition to large firms with multi-billion dollar valuation and small firms qualifying under the U.S. Small Business Administration, there is an extensive range of mid-sized companies. For the purpose of this report, mid-sized companies are those that are not "Big Five" companies,[10] do not qualify for small business designation, and typically have a market value of one to two billion dollars.[11]

CURRENT CONDITION AND HEALTH OF THE INDUSTRY

The PS3 industry supports our national military strategy and contributes to the health of the U.S. economy. While the PS3 industry experienced significant transition in the past five years, the state of the industry is strong; among its strengths is a robust, fluid and mobile workforce. This section examines not only the PS3 workforce—the backbone of the service support industry—but also PS3 firms operating in the industry.

Competitive Structure of the Industry

The PS3 industry is a monopsony because it revolves around one customer—the U.S. Government, and more specifically the Department of Defense and its four military services. Since many of the DoD's needs have no commercial equivalent, PS3 firms discovered ways to simultaneously compete and cooperate. For example, a firm may lose a bid as the prime contractor for a contract, but then perform subcontractor or supplier work for the winning competitor. According to the 2012 Annual Industrial Capabilities Report to Congress, organization of the services industry is relatively simple with primarily "two tiers: primes and subcontractors. Both tiers draw from a sizable professional labor pool. Prime companies that have a requirement to obtain a specialized skill set often satisfy the requirement through one or more subcontractor arrangements. In this two-tier construct, there is usually no additional demand for a third or lower-tier provider unless they are highly specialized."[12]

During seminar industry visits, PS3 firms emphasized that there is fierce competition as a result of the DoD's use of Lowest Price, Technically Acceptable (LPTA) contracts.[13] Some suggested that this award methodology leads to unethical practices by some bidding firms, in that the firms knowingly bid at infeasible rates or assert resources and capabilities that they do not have.[14] Industry representatives also complained about poorly written PS3 requirements that are ambiguous, unclear, or inarticulate; in some cases, this limited competition to the incumbent or a competitor that can hire the current employees.[15]

Firms providing skilled services often utilized the same highly skilled workforce in place at the same organization. Our industry study learned that the competitive nature of the industry not only relates to competition between firms for government contracts, but also competition between

firms for the same pool of skilled workforce. This industry practice reinforces the notion that the PS3 industry's workforce is robust, fluid and mobile.

Economic Health of Key Firms

The PS3 industry experienced a significant downturn in profits and valuation as a consequence of the Budget Control Act of 2011 (BCA).[16] Some analysts indicated that the low point of austerity has been reached, and the industry is already experiencing the benefits of an improving DoD budget.[17] This is a good sign for the PS3 industry, because it has had nearly zero valuation increase in the period from March 2011 to March 2016. During this same time period, the Defense Primes[18] nearly doubled in value.[19] Bulletins from investment banks suggest a positive outlook and steady pace of improvement in the government services market with potentially higher margins.[20] Smaller firms suffered the greatest impact, while large firms (i.e., Defense Primes), and those firms with a greater focus in the commercial sector, have not displayed similar negative effects.

As previously mentioned, the PS3 workforce is very fluid, often performing the same services for the DoD while working for various firms over a period of time. Accordingly, the capability of PS3 firms to attract and retain talent is critical. As a result of LPTA contracts, some firms find themselves renegotiating compensation with their employees, who suffer significant salary cuts in efforts to win an LPTA bid.[21] Cost cutting efforts by PS3 firms are often absorbed by the workforce not just in terms of salary, but also in benefits and quantity of positions available. These efforts make workforce retention difficult despite its importance to each firm's success.

Importance of the Business Units Serving the PS3 Industry Within the Firms

Service divisions within industry firms play an important role in portfolio diversification, and hedge against the business cycles of other operating divisions. For example, KBR's Oil and Gas Divisions are suffering due to low oil prices on the global market, and the KBR Government Services Division helps offset these downturns.[22] In other cases, Defense Primes are selling off service portfolios and turning away from the comparably less profitable PS3 industry. For example, Leidos recently acquired the Lockheed Martin Services Division, as Lockheed Martin re-focuses its strategy on products instead of services while Leidos grows into an even larger service centric company.[23] Appendix B compares stock performance among PS3 firms and Defense Primes. For the majority of firms analyzed in this industry study, government services comprise the entirety of its business.[24]

Successful Business Strategies Employed by Key Firms and the Industry Among Large, Mid-size and Small Firms

The business strategies for large firms typically involve diversification into commercial and foreign markets. For example, Fluor serves various markets across the world and offers a broad range of services in engineering, procurement, construction, fabrication and modularization, commissioning and maintenance.[25] Fluor's diverse business portfolio permits them to focus on more stable business markets, and to capitalize on developing cyclical markets when the timing is appropriate. Fluor's global execution platform allows them to build relationships, capitalize on opportunities in localities around the world, and mobilize quickly to capture business.

Mid-size firms also seek diversification into commercial and foreign markets. Additionally, the business strategies for mid-size firms typically involve diversification into non-DoD government opportunities while maintaining robust DoD presence. For example, ManTech's strategy includes investing in growth opportunities such as healthcare and cyber security services for the U.S. Government, both within the DoD and with other government agencies.[26] ManTech recently acquired firms that are prime vendors on contracts; currently, ManTech is the prime contractor on 90% of its contracts.[27] ManTech focuses its business on IT solutions, but seeks diversification in other areas. ManTech wisely uses its strong balance sheet by being disciplined, paying off its debt, and resetting its $500 million revolving credit. This new credit agreement enhances ManTech's strong capital position and financial flexibility, providing an increased ability to target high-growth areas organically and through strategic acquisitions. Finally, ManTech enhances its ability to deliver services efficiently by focusing on cost-competitiveness and creating efficiencies in delivery of its services.

The business strategies for a small company typically involve development of niche expertise and building a strong partnership network with other PS3 firms. For example, Itility's strategy includes continuing sustained growth—growing the business from a small firm to a mid-sized firm. It seeks to do so by competing and winning small business set-aside IDIQ-type contracts; leveraging partnerships to create opportunities to enter new markets; effective business management that achieves fiscal efficiencies in the face of sustained growth; operations that deliver services to customers that result in customer retention; and implementation of execution of talent management that identifies and places high quality personnel into positions with retention rates that exceed industry standards.[28]

Threats to These Strategies From Substitutes, Suppliers, Customers, or Foreign Competition

The common theme in PS3 firms' strategies is growth, expansion, and customer retention. The industry study's interaction with PS3 firms overwhelmingly focused on threats emanating from their customer, the U.S. Government. While other threats exist, this section focuses on the threats to PS3 firm strategies derived from the customer, the U.S. Government – and more specifically, the Department of Defense.

Larger firms are threatened by the cyclical business cycle and reduced commercial infrastructure projects. For example Fluor, an engineering service provider, is vulnerable to the cyclical nature of markets. Fluor's revenue and earnings are largely dependent on the award of new contracts, so another recession or period of reduced government spending greatly impacts the company.

Mid sized firms are threatened by lack of diversification, specifically lack of commercial sector initiatives. For example, ManTech is an IT solutions consultant services provider heavily reliant on U.S. Government business. In fact, all of ManTech's business comes from the U.S. Government customer.[29] Firms are also threatened by over-regulation, which creates barriers to entry in the marketplace, induces compliance costs, and limits the ability to provide broader solutions.

Small sized firms are threatened several ways. Typically, small sized firms are wholly reliant on the U.S. Government as a customer because that is the firm's market niche. Small sized firms face other threats as well: the inability to recruit individuals with the proper skills, limited cash flow, being crowded out of the market by other players, and being acquired by larger firms.

Foreign Competition, International Trends, and Opportunities in Foreign Producer and Consumer Markets

The domestic PS3 industry primarily serves the DoD and other U.S. Government agencies. While certain elements of operational support and services are sourced from the local workforce overseas, foreign firms typically do not serve as prime contractors in the PS3 industry. In some cases, foreign firms have U.S. subsidiaries supporting the DoD and the Department of State (e.g., Bollore Africa).[30]

Private Military Companies (PMC) are increasingly present in conflict areas, working hand in hand with either U.S. forces or Non-Governmental Organizations (NGOs). NGOs are increasingly acquiring PMC services for protection of their employees.[31] The effects of this international trend remain to be seen.

Other nations are experimenting with even broader outsourcing of formerly governmental functions. For example, the United Kingdom recently issued a new Strategic Defence and Security Review in 2015, which included robust outsourcing.[32] The United Kingdom's Ministry of Defence continues to monitor the long-term consequences of this decision and its attendant risks. Among the risks monitored is the cumulative effect of pervasive outsourcing, at a lower scale, across the entire force over time—and the resultant loss of intra-government skills, capacity and expertise over time.[33]

U.S. law, policy, and regulation reduce foreign competition in the PS3 industry.[34] National security issues, political pressure, and a preference for supporting domestic companies make it unlikely that foreign firms will substantially penetrate the existing PS3 industry supporting the U.S. Government.

CHALLENGES

The PS3 Industry is Challenged by Inarticulate Requirements from the Department of Defense

The DoD spent over $143.7 billion buying contracted services in FY2015, comprising more than 53 percent of the DoD's total contract obligations.[35] Despite these figures, the DoD is just beginning to employ a structured service acquisition and management oversight process similar to the weapon system acquisition process.[36] Several PS3 firms informed our seminar that requirements definition needs improvement. Requirements are the foundational tenet of every acquisition program; the best acquisition strategy cannot overcome poorly defined requirements.[37] The firms expressed frustration with several challenges, to include constantly changing requirements, incomplete information, and reliance on workload data that is old or inaccurate.[38]

As DoD budgets decrease, the U.S. Government seeks cost savings by contracting for services rather than preserving organic capability. The transition requires a firm grasp of requirements in order to clearly define needed services; if done improperly, the PS3 industry provides the government "what it asks for" rather than "what it needs," and in some cases there is a large difference between the two. In 2009, Mr. William M. Solis of the Government Accountability Office testified before Congress about the importance of well-defined requirements.[39] Since 2009, the Office of the Secretary of Defense (Acquisition, Technology and Logistics) (OSD(ATL)) and

Defense Procurement and Acquisition Policy (DPAP) improved the DoD's service acquisition process considerably. Efforts included launching Better Buying Power initiatives that encourage the DoD to obtain industry feedback and recommendation on early stage draft requirements before the final request for proposal; implementing a DoD Instruction on Defense Acquisition of Services; establishing oversight roles and approval authority for service categories; and instituting training opportunities for non-acquisition workforce.[40] These government efforts are making progress towards alleviating this PS3 industry challenge.

Budget Constraints Give Rise to Sub-optimal Contract Types

Acquisition strategy and contract structure play fundamental roles in DoD acquisition of services. In the past, federal agencies evaluated proposals utilizing different approaches; for example, Best Value was more prevalent before the BCA and shrinking DoD budgets of recent years. Best Value allows agencies to holistically consider quality technical competencies, past performance, and price. In today's budget constrained environment, the LPTA approach is used more frequently. The LPTA approach is easy to understand: the award goes to the lowest priced bid that is technically acceptable. The LPTA approach does not offer the opportunity to pay more for increased technical capability or superior past performance. Simply stated, the bid meeting the minimum technical capabilities and past performance with the lowest price is the winning proposal.

The LPTA approach is sensible for commodity-like services, such as janitorial services, lawn care, and other services not requiring particularized expertise. However, LPTA is a poor choice for many services. These include services involving complex requirements, and those with emphasis on quality, safety or innovation (e.g., sophisticated analytical services, training base services, or assistance services in foreign countries). The LPTA approach provides little incentive for contractors to do more than the minimum required to maintain technical acceptability. In short, the LPTA approach incentivizes cost reduction over other important factors like innovation and quality. In fact, incumbents who exceed the requirements are disadvantaged against competitors who propose lower cost bids (and the accompanying lower level of service).

The LPTA approach is an effective method to buy commodity-like services; however, everyone from procurement professionals to Wall Street firms question using the LPTA approach to buy highly technical services, safety critical sustainment, and support services—contracts that were traditionally awarded using the Best Value approach. Unfortunately, the customer suffers when the LPTA approach is misapplied or over-utilized. Given our annual fiscal budgetary constraints, it is likely that LPTA is here to stay for the indefinite future.[41] As a result, the PS3 industry is stuck between a frustrating bid process and dissatisfied customers.

Harmonizing Operational Contract Support training across the Military Services, Combatant Commands, and Department of Defense

The institutionalization of Operational Contract Support (OCS) was codified at the Departmental level with the publication of Department of Defense Instruction 5000.74, *Acquisition of Support Services* on January 5, 2016. This seminal document, coupled with the earlier Joint Publication 4-10, *Operational Contract Support* from July 16, 2014, form the doctrinal underpinnings and foundational elements required for the military services to provide primary and supporting OCS personnel to Combatant Commands who are trained to support Phase 0 through

5 contract planning and operationalization. The challenge lies in institutionalizing OCS doctrine below the Joint Forces level, at the Service level, as noted in the February 11, 2015 Government Accountability Office (GAO) "High-Risk Series" Update 15-290, stating the Department of Defense needed to "…increase the department's capacity to manage and oversee contracts ensuring that its acquisition workforce is appropriately sized and trained to meet the department's needs."[42] The GAO report further states, "Without specific, service-wide guidance, the other services' future planning efforts may not reflect the full extent of the use of contract support and the attendant cost and need for oversight. Also, according to some geographic combatant command officials, the combatant commands have made some progress in including operational contract support in their plans, but some plans do not include operational contract support considerations."[43]

The Deputy Assistant Secretary of Defense for Program Support confirms the GAO's findings in the OCS Capability Gaps section of the *OCS Action Plan for FY15-FY18*, stating "The Department of Defense (DoD) lacks the ability to fully integrate OCS into capability and task planning, operational assessments, force development, training, readiness reporting, lessons learned, and continuous process improvement," and "the joint force lacks the personnel, rules, tools, or processes to integrate OCS into theater plans across all phases (including IV and V), all directorates (J-staff functions), and with non-DoD partners, e.g., multinational or interagency."[44] A way forward has long been proposed in the Functional Capabilities Integration Board's March 31, 2010 OCS *Concept of Operations* "Training and Education" section.[45] In summary, the military services, combatant commands and DoD must continue efforts in closing the gap between doctrine, training and de facto employment of OCS workforce preparedness. New initiatives such as the Joint OCS Planning and Execution Course (JOPEC) represent important progress towards harmonizing OCS training across the DoD.

OUTLOOK

Industry Support of National Security

The PS3 industry flourished during the Afghanistan and Iraq wars. Demand for services was high, and Congress supported robust Overseas Contingency Operations (OCO) funding. Congress also supported increased use of contractors in theater; eventually the contractor to service member ratio grew to three to one.[46] Industry revenues also grew as the U.S. contracted everything from security services, to base support and maintenance, logistical support, transportation, training, intelligence, and communications during overseas operations.[47] Later, Congress implemented sequestration, defense budget caps, and decreased OCO funding as operations decreased and public pressure to reduce the deficit and debt mounted.[48] Although the PS3 industry experienced some decline, spending on services has been resilient; it declined less than spending on materiel, and research and development (R&D).[49]

Impediments to Industry Achieving Capacity Potential

The 2015 Bipartisan Budget Act (BBA) gave the DoD budget a level of stability not seen in the recent past, providing the PS3 industry and investors clarity in government spending.[50] The PS3 industry self-corrected in recent years by realigning priorities, shedding less profitable

business segments, and seeking more strategic combinations.[51] The industry consolidated through mergers and acquisitions, adjusted strategies, and innovative products and services development to meet new market needs (see Appendix C).[52] However, Congress and the DoD, concerned about competition, are enforcing stricter regulatory reviews, which may impact future market self-corrections.[53]

Short Term (1-5 Years) and Long Term Outlook (through 2030)

The U.S. federal budget significantly affects the short-term industry outlook. In recent years, the PS3 industry experienced market consolidation through mergers and acquisitions; this trend will continue.[54] The PS3 firms that endured this period of market upheaval and exist today comprise a solid core of very strong companies that are lean, well-run, and responsive to government needs.[55] Additionally, the industry will continue seeing competitors partnering on contracts to realize mutual benefit among firms.[56] This partnership among competitors may dull the robust competition sought by the DoD, ultimately resulting in higher DoD PS3 spending.

United States discretionary spending and continued demand for PS3 from the U.S. Government affect the long term outlook. Although the U.S. economy will continue to recover from the Great Recession, Congress will continue struggling with non-discretionary entitlements and the national debt, as mandatory spending crowds out discretionary spending for defense and infrastructure. On the other hand, technology and innovation stimulated by the Third Offset strategy will result in new and original ways of operating.[57] Increased demand for high tech skill sets will remain strong, as the Third Offset requires highly skilled contractor personnel. Human capital may become the new limiting factor in the PS3 industry's ability to support the DoD, as competition for critical skills between the government and PS3 industry on the one hand, and private enterprise and commercial sector on the other, drive up the cost of some services; however, government demand for the PS3 industry will likely remain strong.

Political / Social Factors

Threats to global security and U.S. national interests range from state actors such as Russia, China, North Korea and Iran to non-state concerns such as international terrorism, transnational crime and cyber attack.[58] As threats in the volatile, uncertain, complex and ambiguous global environment emerge, the national security resource requirements change with it. The U.S. must be prepared to take lead in the effort to provide the resources and innovative ways to address these threats, and the PS3 industry performs an integral role in this effort.

The PS3 industry is an integral part of the DoD total workforce in overseas operations for several reasons.[59] First, contractors are politically appealing because it prevents government insourcing or "big government." Second, deployed contractors reduce deployed troop strength requirements, which also enjoys popular and political support. Finally, contractor presence in operational areas is increasing among non-U.S. Government clients, as more non-U.S. Government clients are hiring PMCs to protect their business interests, provide logistical support, and provide security.[60] These political and social preferences will remain for the foreseeable future, ensuring continued demand for PS3 industry capabilities.

Industry Positioned to Maintain Preeminence

The PS3 Industry will maintain preeminence by serving critical functions of the DoD, maintaining well run companies that evolve with new government needs, and maintaining a highly qualified workforce.

The DoD is incapable of conducting expeditionary operations without the assistance from private service contractors in numerous critical areas. For example, in 2007 over 190,000 contractors worked in Iraq on US-funded contracts; in 2008, the DoD spent around 316 billion dollars on contracted services, about as much as the total amount it spent on weapons systems and equipment; and in 2009, private contractors outnumbered military personnel in Afghanistan and nearly equaled the number of military personnel in Iraq.[61] The PS3 industry is critical to military operations, and this important role will continue for the foreseeable future.

PS3 firms maintain competitiveness by adapting to evolving technologies and services in order to meet new governmental needs. For example, PS3 firms such as ManTech understand the increased demand for cyber security, healthcare, and global environmental protections, successfully adapting its company to meet these new evolving governmental demands.[62]

The industry sustains preeminence by attracting and maintaining highly qualified human capital with specialty skills. The industry currently saves money by capitalizing on a veteran workforce that is trained by the military and knowledgeable about government needs. As the military continues to downsize, this skilled workforce pool will eventually decrease. The industry will need to strategically plan for new training programs in order to maintain a robust, high quality workforce over the long term.

GOVERNMENT GOALS AND ROLES

Goals and Role of Government

The PS3 industry study examined government goals and roles with special emphasis on Operational Contract Support (OCS). OCS regulations are in place, identifying roles and responsibilities. However, the DoD must now emphasize resourcing—both personnel and funding—in addition to its ongoing training and implementation efforts. The DoD is notoriously weak in preserving institutional memory, and efforts to avoid repeated mistakes are critical. As LTG Michael Williamson stated, "with a continuous change of personnel regarding the acquisition process, 'the collective we' tend to repeat the same mistakes over a period of time."[63]

In October 2007, Dr. Jacques Gansler—former Under Secretary of Defense for Acquisition, Technology, and Logistics—released a report on Army Acquisition and Program Management in Expeditionary Operations. Known as the Gansler Report, it identified three key findings: not enough people, too little training, and an antiquated contracting system.[64] The Gansler report spurred numerous changes to Army contracting. Among these was the establishment of the Operational Contract Support concept, encompassing areas that include contract support integration, contracting support, and contractor management. Although the report focused on Army acquisition—the Army was the lead service for contracting in Iraq and Afghanistan—it addressed problems and successes DoD-wide. Continued improvement in OCS requires emphasis in resourcing, training, and implementation.

Government Response to Outlook and Industry Strategies

The PS3 industry is currently healthy, with a competitive market and few barriers to entry. However, the government must diligently analyze the service market in order to avoid imposing artificial restrictions into the system that cause adverse reactions within the industry, some of which may result in long-term problems. For example, the U.S. Government increasingly utilized LPTA contracts to manage PS3 costs. This approach successfully reduced costs contained in the direct and indirect pricing structure of PS3 firms. The cost-type contracts issued over previous years produced an unbalanced level of excess cost to the government that LPTA contracts have restricted. However, at this point the "fat" has been removed, and the margins have been right sized.[65] Now, LPTA contracts are beginning to force PS3 firms to make hard decisions on whether they should continue competing for LPTA contracts, or look elsewhere for other market opportunities. Some firms took drastic steps in the face of the LPTA environment; large companies with service divisions divested government service divisions because of low profit margins. Lockheed Martin's sale of its government service division to Leidos is evidence of this growing trend.

Consolidation of PS3 firms is not advantageous to the government because it limits competition within the PS3 industry. Regardless, the government must let the market determine the number of companies that enter or leave, because the consolidation and expansion of PS3 firms will ultimately self-regulate based upon demand signals from the government. Instead, the government must execute the appropriate contract actions and contract types best suited to support its requirements. This includes looking at the best type of competition for PS3 procurement. The government issues many Multiple Award Indefinite Delivery Indefinite Quantity (IDIQ) type contracts; these types of contracts further limit competition among PS3 firms. Limiting IDIQ contracts to a certain number of years will foster increased competition, and may prevent some firms from exiting the market. Procuring agencies must continue to execute on-ramp procedures, allowing companies to enter onto IDIQ contracts in subsequent years. Such efforts will assist in limiting negative impacts to the market.

PS3 firms' continued expansion into other markets, both commercial and international, ultimately benefits the government. It improves their business base, decreases reliance on government contracts, and fosters innovation. As companies identify efficiencies and new product ideas in other markets, the government can leverage these developments and apply it to requirements within the DoD.

The PS3 industry will continue seeking maximized profits for their firms. However, the government can minimize cost and maximize its return on investment by ensuring government requirements are clearly defined. As seen in several case studies and seminar industry visits, the government's inability to stabilize requirements and provide clear guidance to the contractor at the beginning of the contract results in increased costs to the government.

Government Policies

The Undersecretary of Defense for Acquisition, Technology, and Logistics, Honorable Frank Kendall, signed into effect a revised DoD Instruction (DoDI) for services acquisition.[66] The new service acquisition guidance is based off the weapon system procurement policy. It creates a disciplined approach to acquisition of services in the DoD, which accounts for more than half of its annual expenditures.[67] The DoDI creates six service acquisition categories with associated

levels of review, approval and oversight within the OSD (ATL) and the military services. The instruction includes tripwires, as practiced by the U.S. Navy, to assist the government's procurement of services at a reasonable cost. The revised policy supports Secretary Kendall's Better Buying Power initiatives.[68] It looks to improve service contracting efforts to address not only the latest Government Accountability Office high-risk list rating, but also the findings in the Gansler Report.[69] The new acquisition procedures risk creating a longer bureaucratic schedule for contracting new services, but these procedures also greatly improve processes.

Secretary Kendall continues to encourage the acquisition workforce to utilize critical thinking skills instead of over reliance upon policy and procedures. He emphasizes the need to selecting the correct contract type to match the procurement action.[70] The current trend of increased use of LPTA for complex procurement activities within the DoD highlights this concern. The acquisition community needs reinforcement by senior leadership that Best Value contract awards are acceptable. PS3 firms believe utilization of LPTA contracts reached an unhealthy level in the last couple of years, and a correction back to Best Value is needed.[71]

Recommendations and Options

1. Increase stature, quantity and career development for contracting personnel – both military and civilian, particularly for expeditionary operations.[72]
2. Provide training and tools for overall contracting activities in expeditionary operations.[73]
3. Maintain consistency in the acquisition personnel in order to maintain corporate knowledge.
4. Limit the amount of policy and regulation issued so that we find efficiencies in the acquisition process.
5. Continue to grow DCMA resources and skill sets in order to institute adequate oversight of contractor costs so that the "fat" is not incorporated back into cost base over time.

ESSAYS ON MAJOR ISSUES

Essay #1: Lowest Price Technically Acceptable (LPTA)

In competitive procurement times past, federal agencies could evaluate numerous proposals utilizing different approaches. The most popular approach before budget cuts and sequestration used to be Best Value. This allowed agencies to balance the tradeoff between quality technical competency or past performance and price/cost. Today, in a world of ever painful annual defense efficiencies, the LPTA approach has surpassed Best Value. LPTA is easy to understand; the award goes to the lowest priced contractor entity who submitted a technically acceptable proposal. There is no trade off; no judgment involved, once the proposal is found to be "acceptable" by the contracting officer who appears to have a high level of subjectivity in the LPTA process.

LPTA procurements were intended to be used when "the requirement is clearly definable and the risk of unsuccessful contract performance is minimal." LPTA procurements can be evaluated in one of two ways. One approach is to determine the technical acceptability of all proposals and then identify which of these proposals offered the lowest price. Or, pursuant to FAR 15.305, the agency can determine which offeror has the lowest price first, and then determine if that offeror also submitted a technically acceptable proposal. LPTA procurements are a good option for things like fuel purchases, office supplies, or construction of a new maintenance facility.

LPTA is not a good option for procurements involving complex requirements or where quality, safety and/or innovation are important, such as in contracts for urbane analytical services, personal protective equipment, or assistance services in foreign countries. A major disadvantage of the LPTA approach for complex requirements is that there is no incentive for contractors to do more than merely explain how they are going to perform the work; there is no incentive for offerors to go into detail about how they will accomplish the agency's goals. The goal in an LPTA procurement is to simply "pass" by being technically acceptable at the lowest price possible. The goal is not to get an "A" or exceed the government's requirements by offering an innovative or higher quality solution. In fact, the opposite is true. In a LPTA procurement, an incumbent who exceeds the requirements is decidedly disadvantaged because better solutions usually come at a cost, and any additional cost is likely to lose the contract award.

The customer is the forgotten one in the LPTA process. While no one doubts that LPTA is the best way to buy pencils, everyone from procurement professionals to Wall Street firms will continue to question whether it makes sense to use the same approach to buy highly technical support services that were traditionally awarded using the Best Value approach. These are tough times for the nation given our annual fiscal budgetary constraints. It is vital to ensure that future contractual bids are technically acceptable and meet all of the requirements first, then the lowest price criteria can be utilized for those remaining offerors that qualify.[74] To date, LPTA contracts have helped to re-set the market and going forward in Seminar Two's humble opinion we must now return to Best Value contracts now that the market correction is complete.

Mr. Randy Perry, Dept of Veterans Affairs

Essay #2: Outsourcing: Challenging the Conventional Wisdom

The service industry composes a large portion of the Department of Defense (DoD) budget. The conclusion from my analysis is the amount of dollars allocated for Government personnel remain stagnant, therefore forcing additional contracted services. The Private Sector Support and Services industry study heard from the defense service community and division across the federal government. The speakers provided insight into the service industry and the pros and cons of the increased use of contractor support. The outsourcing the majority of the Government services has short and long term impacts within the DoD that must be considered. In addition to the non-monetary cost, an area for further evaluation is decomposition and qualification of contracted versus government labor costs. The cheaper overall cost is the main argument presented as to why the government service industry continues to grow. Is the cost truly cheaper, or are the costs to the government more significant than previously considered?

Data Accuracy & Regulation

The data utilized to assist auditors in making determination of cost is often not always readily available. In addition to availability, the data is not always detailed or comprehensive enough to support the investigation. The government data provided to compare with contractor data also was either missing, inaccurate, incomplete or lacked similarity to make an accurate comparison. Many times the total government cost included items that were not included in the "comparable" contractor total cost. The inconsistency of the data makes it hard to determine whether government

or contractor support is cheaper. The data used to calculate cost often lacks adequacy for leaders to make an informed decision on cost. Information is not always captured to quantify the numbers needed, or the information is not available and thus excluded. The companies do not always disclose the residual cost associated with executing the contracts, or the prior cost to the government previously paid contracts. These factors warrant inclusion and consideration when utilizing cost as the primary decision factor.

Education Requirements

Education is a key qualification in many positions in both the federal and private sector. The federal government does not have the ability to negotiate different wages and benefit packages for each individual person. Government employees are typically grouped together, and personnel who do not have the same qualifications that have been in the job prior to the education requirements will sometimes reap the benefits. However, during the course of this industry study many of the companies admitted to the increase in wages and benefits to keep people providing government support. Over the years, although the requirement has not changed but a contracted employee received raises or increased benefits there resulted an overall increase to the contract cost. If the Government requires a Level 1 engineer, it is difficult over the years to remove the Level 4 engineer that has grown into the job because the organization likes them. The contractor is required to be the check and balance because they should fill the requirements in the Statement of Work. However, many times the company's concern is to maintain the relationship with its government customer. The use of Lowest Price Technically Acceptable (LPTA) contracting forced companies to ensure the personnel fit the positions in the SOW and reduced the cost of these types of service positions. Companies vigorously reduced benefit packages and wages to win the government contract competitions. The use of LPTA contracting actions forced industry to compensate employees based on requirements, and the skills and education of the individual, versus Government employees, who once they receive a position receive a pay increase based on set standards rather than education.

Long Term Cost of Outsourcing Service

The cost to the government for outsourcing is both monetary and non-monetary. The government claims that contractor costs are cheaper than utilizing federal government employees. But during the course of our industry study, the defense companies routinely stated their pool of applicants comprise of a large number former military or government workers. Many of the company leaders conducting the actual briefs were former military officers. The government funded the training costs for these personnel via military training or government sponsored training. These institutional training costs are not factored into the total cost of outsourcing government services. One major service provider overseas was asked what would happen if the military did not have the people to provide them to fill their positions. The companies do not have a long term in house ability to train its labor supply. Companies are at risk from government's decision to dramatically reduce the number uniformed services members serving until retirement and it continued outsourcing labor requirements. The cost to adequately train employees within a defense company on its customer's requirements will be significant. If or when this happens the cost will be charged to the government and significantly increasing overall costs. The government

includes all long-term costs in the employee's total cost figure, but neglects to include the impending long term training cost in the contractor total cost.

Many promote the idea that the cost of outsourcing government work to a contractor is cheaper. However, the government oftentimes lacks the tools to either prove or disprove this theory with regard to the monetary cost. The assumptions made during the execution of the evaluation are often invalid or inaccurate, skewing the outcome of the studies. It is not in the best interest of a company to provide all the data necessary to accurately assess the cost of their work. Full disclosure allows for government officials to make an accurate and thorough evaluation of cost. The service industry is future revenue for many companies. While the profit margins are not great, the stability of work within the government is a priceless commodity for defense companies. However, the government needs to clearly identify the requirements as we go forward to ensure that the long-term costs of outsourcing work does not damage the government and force us to pay a higher lifecycle cost. Overall the government should evaluate the requirements to ensure the cost savings is truly a savings and limit the residual effects of an outsourced service to the DoD.

Ms. Karen Proctor, Dept of the Navy

Essay #3: Acquisition Reform

The DoD buys a wide range of supplies, equipment, and services. Nonetheless it still struggles with the best way to buy them. Many of the DoD's buys have cost overruns, schedule delays, and performance issues. These problems have plagued DoD acquisitions for decades, despite efforts to fix them.

Over the years, the DoD and Congress have implemented various acquisition reforms to make the process more efficient and effective, but the results are mixed. After WWII, the growth in defense acquisition regulations grew, and by the late 1970s the DoD had 79 different offices issuing procurement regulations and 30,000 pages of regulations.[75] As a result, Congress enacted the Federal Acquisition Streamlining Act (FASA) of 1994 to overhaul the process.[76] FASA drastically changed how the Government did contracting. It simplified the federal procurement process, reduced paperwork burdens, increased the use of Commercial-off-the-Shelf buys, and transformed the simplified acquisition process to electronic commerce.[77] Also, FASA repealed and modified more than 225 statutes.[78] The Clinger-Cohen Act of 1996 further streamlined the acquisition process by authorizing the use of Simplified Acquisition Process (SAP) for commercial items up to $5M. FASA and Clinger-Cohen removed the traditional oversight mechanisms, and paved the way for new and streamlined ways for defense procurement.[79]

However, efforts continue to fix the old and plaguing defense procurement problems of cost, schedule and performance. In 2009, Congress passed the Weapons Systems Acquisition Reform Act (WARSA), another attempt to improve the way weapon systems are acquired. Also, Congress uses the annual National Defense Authorization Act to reform and control the DoD by using the power of the purse.

Yet there is debate over how effective the acquisition reform efforts have been. Arguments can be made on both sides, though most agree that the Government's reform efforts are meant for good. The Government is trying to buy a quality product/service for a reasonable price within a reasonable time frame. Deciding which changes will accomplish this goal differs widely inside and outside the Government. Normally, the solution is to create new regulations that are usually

unnecessary, but the Government already has the tools to get the job done—it only requires acquisition professionals to use thoughtful execution of the existing rules and regulations.[80] Additionally, some believe the process is not meant to be fast because the Government has checks and balances responsibilities. As a result, the pendulum goes back and forth between more restrictive and burdensome controls during "peace times" and more relaxed regulations during wartimes.

Acquisition reform has its challenges, but it can work and has worked. Although the DoD has had its hiccups with acquisition reforms, the DoD has a remarkable record of getting it right.[81]

Discussions with the defense service industry and government representatives identified a number of small yet beneficial improvements to the acquisition process that can be implemented quickly with immediate results. Most of the improvements are training issues, using critical thinking skills and good judgment. The recommendations for improvement include:

- **Be mindful of response time, page numbers, and due dates.** The businesses visited shared that the Government does not give enough time or pages for them to prepare a sound and detailed proposal for complex requirements.
- **Talk to Contractors.** Acquisition leaders must train the community on how and when it is okay to talk and share information with Contractors. Providing detailed information to the Contractor results in better proposals, service and price.
- **Communicate the policy in detail to ensure it is interpreted and implemented correctly.** "BBP didn't say "Firm-Fixed Price is always less risky for the Government" or "LPTA is always the best way to procure services" but that's what got communicated."[82] The DoD must continue its training efforts to eliminate the experience and knowledge gap among acquisition professionals.
- **Better Work Statements.** Statements of Work (SOW) are foundation from which everything else is built. Therefore, the DoD should lower the dollar threshold for mandatory Service Acquisition Workshop training and mandate the use of Acquisition Requirements Roadmap Tool (ARRT). Alternatively, the DoD should create an office to write SOWs, which would be staffed with technical experts that gather the information from program offices and write the requirement.
- **Trust & Accountability.** "Acquisition professionals are intelligent, fair, and honest. The best reform is to trust their good judgment to select from the menu of available acquisition strategies to best suit individual procurements, and cease diverting their energies on a bunch of new initiatives every couple of years."[83]

Ms. Melanie Alston, Dept of the Navy

Essay #4: Operational Contract Support

Given the end of major hostilities in Iraq, and the rapid drawdown of personnel in Afghanistan, it's easy to be drawn into a false sense of complacency vis-à-vis any *future need* of a competently-trained and manned acquisition workforce. That, I submit would be a mistake of potentially enormous proportions – one that risks tragic consequences. This statement is not one of hyperbole. In fact, "some analysts believe that poor contract management has played a role in permitting abuses and crimes committed by certain contractors against local nationals, which may have

undermined U.S. counterinsurgency efforts in Afghanistan and Iraq." [84] As such, it is imperative that *all* parties of the acquisition process – from the requirement(s) generator to the contracting officer representative – are professional, and well-trained. Operational Contract Support (OCS) is a key and essential element of that professionalism and training. In order to provide rapid acquisition and acquisition management for the Department of Defense (DoD), it is essential to *broaden, strengthen, and institutionalize OCS* across the department.

As communicated by LTG Michael Williamson, the Principal Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) and Director of Acquisition Career Management in a 9 March 2016 interview – conducted by members of the 2016 Eisenhower School's PS3 Seminar – the DoD has no institutional memory. His point was and is that, with a continuous change of personnel regarding the operational acquisition process, "the collective we" tend to repeat the same mistakes over a period of time.

To wit, in October of 2007 the Gansler Commission, under the auspices of Dr. Jacques Gansler – a former Under Secretary of Defense for Acquisition, Technology, and Logistics – released a report on Army Acquisition and Program Management in Expeditionary Operations. That report came to be known as the Gansler Report. In it, Dr. Gansler identified *three key findings* with regard to Army contracting in Iraq, Afghanistan, and Kuwait: *not enough people, too little training*, and *an antiquated contracting system*. [85] The outgrowth of the report, along with the below-addressed Congressional interest, resulted in the establishment of the concept of OCS. It should be noted that, although the report was on *Army Acquisition*, it addressed problems *DoD-wide*. This, as the Army was the lead service for contracting (LSC) in Iraq and Afghanistan, and reflected the commensurate problems and successes writ large.

More is needed to fix the ills of OCS. The preceding represents but a primer on the topic. Suffice it to say, however, with an ever-increasing reliance of contractors to provide operational service support, the government will have to broaden, strengthen, and institutionalize OCS if it is to achieve a favorable outcome. In order to properly, efficiently, and effectively operate in this OCS world of rapid acquisition and acquisition management, we *have* to have qualified and capable personnel to let, manage, and monitor the resulting contracts and contractors.

As stated above, Under Secretary of Defense for Acquisition, Technology, and Logistics – Dr. Jacques Gansler – identified three key findings with regard to Army contracting in Iraq, Afghanistan, and Kuwait: not enough people, too little training, and an antiquated contracting system. From those findings *(via the Gansler Commission)*:

> The commission outlined four areas as critical to future success:
> 1. Increased stature, quantity and career development for contracting personnel – both military and civilian, particularly for expeditionary operations;
> 2. Restructure of the organization and responsibility to facilitate contracting and contract management;
> 3. Provide training and tools for overall contracting activities in expeditionary operations; and
> 4. Obtain legislative, regulatory, and policy assistance to enable contracting effectiveness, important in expeditionary operations. [86]

With the exception of item 4, all still apply. It's my assessment that there are enough rules and regulations in place to meet the identified shortcomings stated herein. One of the keys to the

successful resolution of this OCS dilemma, however, is the *proper application* of energy, commitment, and emphasis.

> GAO and others have reported that the first step in improving contractor support at the strategic level is for senior leadership to consistently articulate its importance. Many analysts argue that without active and sustained support from senior leadership, the culture of the military is unlikely to change. According to these analysts, when management establishes priorities, articulates a vision, and aligns incentives and organizational structures to match these priorities, the foundation will be set for real change. [87]
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> *Mr. Andre Batson, Defense Logistics Agency*

Essay #5: Innovation In the Defense Service Sector

This essay examines the concept of innovation to understand what it means, if and how it applies to defense contractors providing support services to DoD, how business best practices can enhance innovation, and how the defense acquisition department is embracing innovation approaches to meet the United States National Security Strategy.

Merriam-Webster's dictionary defines innovation as a new idea, device, or method. [88] Innovation has also been seen "as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs."[89] This begs the question of whether innovation only plays a role in technology and product development, or does it also have a role in service delivery and process improvement.

The services industry is greatly varied and includes a huge range of industries, everything from entertainment to hospitality, healthcare, and government. For-profit service companies innovate for one main reason – to maximize profits. Service companies in an open market environment have an incentive to innovate. Innovation may be an important ingredient to their ability to meet market demands, earn revenue, maximize profits, and ultimately attain their strategic company goals. But does this hold true for service companies operating in the government arena - does innovation get incentivized and rewarded for service companies doing business with DoD?

The DoD market is best characterized as monosoponistic, in which there is a sole buyer of goods and services.[90] The trend in the defense services has been to view the environment more as a commodity market rather than a market with differentiated offerings. Often the culprit named as driving the DoD services market to commodity treatment is the lowest price technically acceptable (LPTA) acquisition approach. "The overall use of LPTA appears to be declining as scrutiny increases. However, its use within services contracting remains steady at approximately 30% of LPTA-related procurements."[91] The result of the commoditization of the defense services market has been severely reduced contractor margins, company consolidations, and firms leaving this market sector.

The Defense services market hardly sounds like an environment conducive to innovation, however if a company can reduce costs by innovating, it will increase its profits. Service companies can innovate internal processes and business practices (resulting in efficiencies and cost savings), external processes that directly impact the quality and value of services provided to a customer (resulting in additional revenue or profit), or both. A positive outcome of the austere

budget environment is that Defense services companies have been forced to gain efficiencies in their business practices in order to remain competitive. Companies are leveraging innovation to become more strategic in determining their place in the defense service sector, only engaging in areas in which they can be competitive.[92] To maximize the return on their proposal budgets, companies are using more analysis and strategy to determine which RFPs to bid. Companies are also forming partnerships with competitors to jointly bid projects.[93] This is an innovation in strategy that is being driven by market conditions. Partnering with another company also eliminates one potential competitor during the bidding and evaluation process.

Innovation will remain an important factor as DoD continues to support U.S. national interests in a very austere budgetary environment. Innovation within DoD, and among defense contractors will support the U.S.'s Third Offset strategy. Innovation, albeit potentially more inwardly focused, is important to defense service providers' ability to meet the capability and cost requirements of DoD. Equally, defense acquisition must also innovate to allow contractor partners to best support the department's mission.

Long-Term Supplier Relationships a Best Business Practice Innovation

Southwest Airlines is a highly regarded Fortune 500 company that puts a lot of focus on building and maintaining positive supplier relationships. Whereas the government is bound in most cases to openly and fairly compete and re-compete most contracts, commercial industry is able to quickly shop around for the best value and stick with proven performers once a mutually beneficial relationship has been established. In the book, *The Southwest Airlines Way*, author Jody Gittell remarks, "The traditional approach to supplier relations is to play one off the other to try and get a better deal. Most companies also try and avoid relying too much on any one supplier so they don't have the upper hand when negotiating. Southwest Airlines turns this approach on its head by forming long-term and close working relationships with its main suppliers."[94] She notes the many advantages of Southwest's approach, namely: each party being able to focus on what they do best, Southwest extending their sphere of influence through their entire supply chain, problems being solved jointly, new opportunities responded to quickly, and new joint initiatives developed rapidly.[95] Southwest Airlines provides a solid example of how strikingly different industry-leading procurement operations are managed in the private sector. Without the flexibility to rapidly source and select best value goods and services while building quality, long-term relationships and partnerships with suppliers, the government will be hard-pressed to benchmark Fortune 500 companies in this area.

Air Force Remotely Piloted Aircraft (RPA) Innovation

The Air Force is using innovation to support the insatiable request for intelligence, surveillance, and reconnaissance (ISR) capability of remotely piloted aircraft (RPA). Remotely Piloted Aircraft is synonymous to Unmanned Aircraft Systems (UAS) and Unmanned Aircraft Vehicles (UAVs). A RPA/UAS/UAV is a fixed wing, rotor-wing, or lighter-than-air unmanned aircraft (does not carry a human operator) that is remotely piloted or fully autonomous. The RPA industry in 2012 generated $4.8 billion dollars in revenue and will grow to $6.0 billion dollars in 2017.

Remotely piloted aircraft have been instrumental in seeking, finding, tracking and killing enemies of the US and its allies. Congress and DoD would like the Air Force to fly 65 to 90

combat air patrols (CAPs) 24 hours/7 days a week to fulfill all the required ISR missions, but the Air Force can barely produce 65 CAPs due to manpower and training shortfalls. To fulfill this requirement the Air Force has taken an innovative approach: "hired civilian defense contractors to fly MQ-9 Reaper drones to help track suspected militants and other targets in global hot spots, a previously undisclosed expansion in the privatization of once-exclusively military functions."[96] This is the first time ever CAPs have been piloted by private civilian contractors to meet the avid request for ISR information.

Air Force CAPs are critical ISR missions that are flown 24/7 by military members (rated officers) of the Air Force. However, due to the shortage in Air Force manpower to fly these critical CAPs, the Air Force has contracted out two CAP missions and plans on contracting out up to 10 CAP missions.[97] "The use of contractors reflects in part the Pentagon's growing problem in recruiting, training and retaining military drone pilots for the intensifying air war against Islamic State militants in Iraq and Syria. It is several hundred short of its goal of 1,281 pilots."[98] In a Government Accountability Office (GAO) recommendation it stated, "Evaluate the viability of using alternative personnel populations including enlisted or civilian personnel as UAS pilots to identify whether such populations could help the Air Force meet and sustain required UAS pilot staffing levels."[99] The Air Force has taken an innovative approach and the recommendation of GAO and hired civilian defense contractor pilots to support these critical CAP missions. This is one of the Air Force's first steps to reduce the shortage of manpower needed to meet the insatiable desire for ISR information.

The Air Force and DoD are addressing the policy and legal issues of conducting ISR missions with civilian contractor pilots. The two issues being addressed are 1) the law of armed conflict (LOAC) and 2) inherently governmental functions. Neither of these issues is prohibiting the contracting out of the RPA piloting functions, but it is generating some discussion and controversy within the military. This usually happens when new technology is used to support warfare; nevertheless, DoD and the Air Force have decided that RPA pilot functions can be contracted out and are doing so. This innovation approach will enable the Air Force to increase the ISR CAPs to support the insatiable desire for ISR capability.

DOD's Big Data Innovation

Big Data can improve DOD's decision making. Let's focus on three areas impacted by big data: DOD's policies, DOD's culture, and DOD Acquisition Information Systems. "Big Data is an all-inclusive term used to describe vast amounts of structured and unstructured information. Big Data varies in terms of volume, velocity, and variety." [100] Big data can assist in performance measurements, evaluating outputs and outcomes, identifying trends, and improving decision-making.

Under Secretary of Defense Frank Kendall stated "the three annual reports on The Performance of the Defense Acquisition System that we have published are based on this premise of data should drive policy." [101] "In an effort to bring more transparency and accountability to the federal government, Congress passed the Federal Funding Accountability and Transparency Act (FFATA) in 2006."[102] "In 2014 Congress passed the Digital Accountability and Transparency Act of 2014, which expanded the FFATA of 2006, established government-wide data standards, and improved the quality of data submitted to USASpending.gov."[103]

The DOD culture needs to change in a way that values using data to drive decisions. "The DOD culture must also integrate data gathering and analysis into the very fabric of the organization, making it a part of the daily routine and standard operating procedures."[104]

RAND and GAO reports on OSD central repositories highlighted the following concerns with contracting data systems: latency; political, structural, and cultural barriers to sharing; conflicting regulations on proprietary data; issues with utilizing structured and unstructured information in central repositories; poor planning; lack of a centralized or authoritative process for scrubbing and validating all data in a given repository; DoD or contractor organizations do not always document required information or input it into the systems; technical limitations may also reduce the effectiveness of contracting data systems.[105]

There needs to be a paradigm shift in DOD's approach Big Data. First, DOD senior leaders have to buy-in and conduct their daily business using data as a key driver for decision-making. Second, randomly assigning people to input data increases the risk of inputting inaccurate information. Third, understanding what and how to measure the value of the data is important to determining the right data to collect.

Lastly, advancements in technology has increased availability and reduced cost for analytic tools. "The challenge associated with big data has been the analysis of unstructured raw data."[106] "Industry is solving this challenge through the use of cognitive systems."[107] Leveraging the innovation and solutions available in industry to perform big data analytics perhaps is one of the best messages DOD senior officials can send to the DOD workforce.

Mr. Otis Fields, Department of Defense
Lt Col Christopher Hobbs, US Air Force
Mr. Paul Rosen, Dept of the Navy
Mr. Jerome Yates, Dept of the Air Force

CONCLUSION

The PS3 industry experienced a boom in the 2000s, with operations in Iraq and Afghanistan, and global counter terror operations, providing heavy demand by the government on the industry. In 2011-2012, reduced operations in Iraq and Afghanistan, coupled with sequestration and the BCA, caused significant market disruption. Since 2015, a relative state of normalcy ensued, as DoD requirements and budgets became clearer. The last 15 years saw a boom-to bust-to normalcy cycle occur in the PS3 industry.

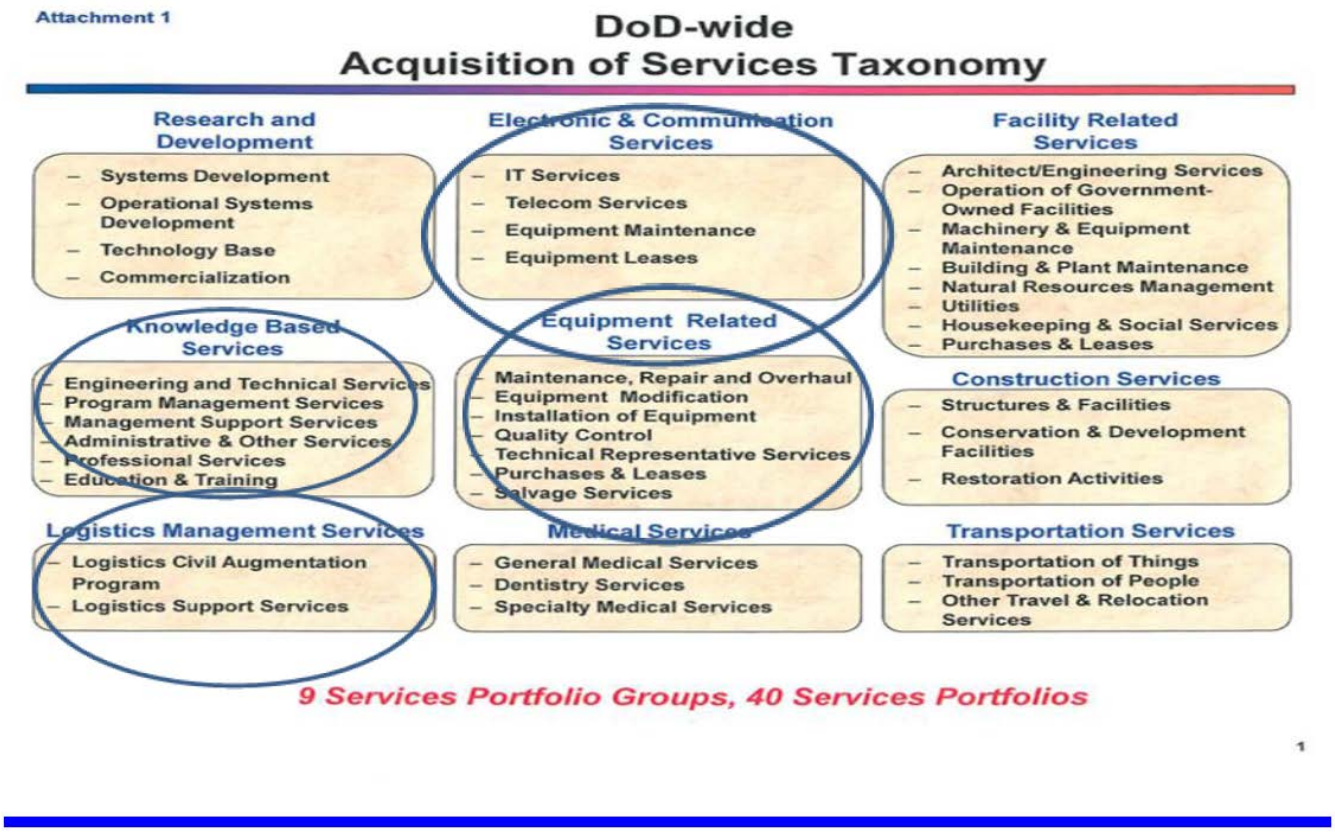
This market cycle caused several significant events: a period of enhanced mergers and acquisitions in the PS3 industry, and the emergence of strong PS3 firms enduring this disruption; an era of cost-conscious acquisition of services by the DoD, with cost playing a larger role; sharp competition within the industry for fewer contracts, resulting in adjustments by the PS3 industry with partnering and sub-contracting practices increasing; and cultivation of new opportunities within the PS3 industry, notably in cyber and health care. Throughout this time, the DoD continued to normalize and institutionalize its processes in OCS, improve requirements development, and evolve its acquisition strategy for service contracts.

The PS3 industry is strong, but must continue to evolve in order to meet market demands. Government acquisition of services and OCS management is vastly improved, but these improvements are incomplete and must continue. It is imperative that both the DoD and the PS3

industry evolve to meet new challenges, capitalize on new opportunities, and communicate clearly with one another.

APPENDIX

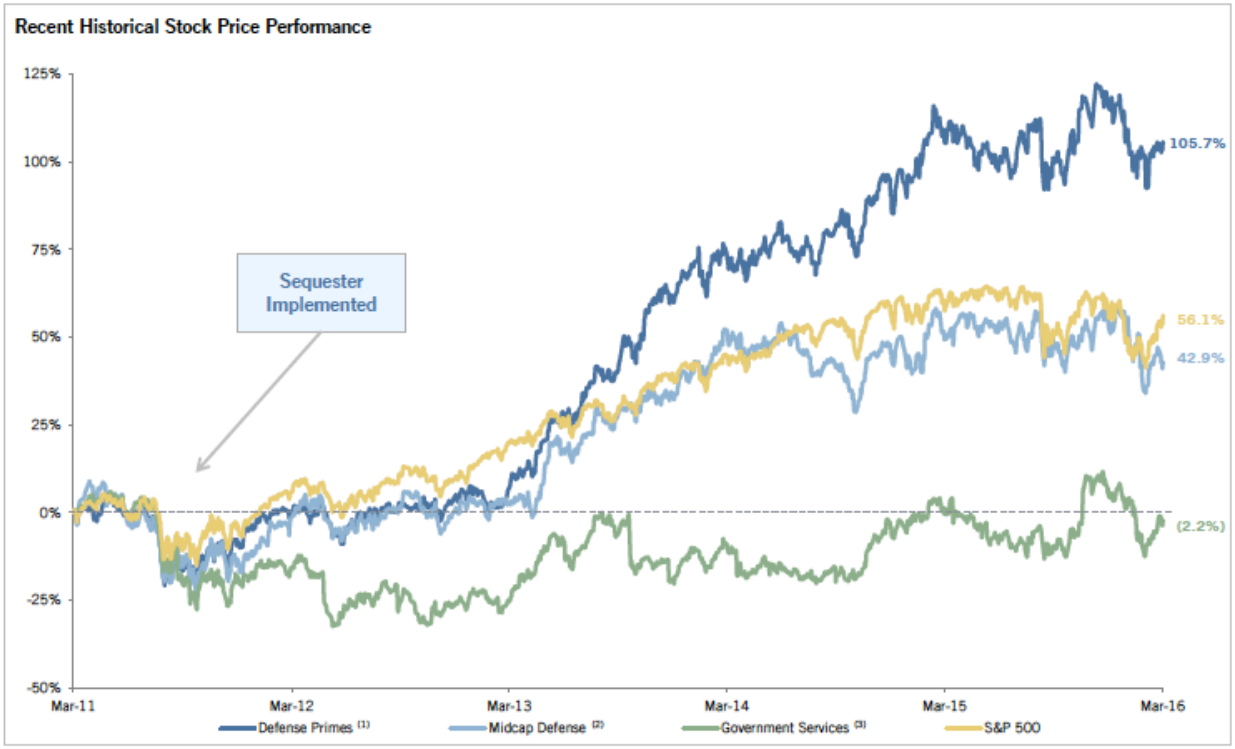
APPENDIX A



DoD-wide Acquisition of Services Taxonomy

(Attachment 1 to the USD(ATL) Memorandum, dated 27 August 2012, Subject: Taxonomy of Services and Supplies & Equipment)

APPENDIX B



Source: Capital IQ.
Note: Market data as of March 11, 2016. Indexes calculated on a market cap weighted basis.
(1) Defense Primes include BAE Systems, Boeing, General Dynamics, L-3 Communications, Lockheed Martin, Northrop Grumman and Raytheon.
(2) Midcap Defense includes Cobham, Comtech, Cubic, Harris, Kratos, Mercury, Orbital ATK, Teledyne and ViaSat.
(3) Government Services includes Booz Allen Hamilton, CACI, CSRA, Engility, KEYW, Leidos, ManTech, SAIC, Vectrus and VSE Corp.

Five-Year Comparison of Stock Price Performance between Defense Primes, Mid-Cap Defense Firms, Government Services (i.e., PS3 firms), and the S&P 500

(Information from Jeffries presentation to the PS3 Industry Study, 17 March 2016)

APPENDIX C

Recent Transactions

Announced	Acquirer	Target	Transaction Value ($M)	EV / LTM EBITDA	Description
Feb 2016	J.F. Lehman & Company	api technologies corp.	$304	10.9x	Designs, develops, and manufactures systems, subsystems, modules, and components for RF microwave, millimeterwave, electromagnetic, power, and security applications
Jan 2016	leidos	Lockheed Martin IS & GS	5,000	~11.0x	The IS & GS business is comprised of the Information Systems & Global Solutions businesses, offering a broad portfolio of mission-critical solutions and services
Jan 2016	Veritas Capital	PAE	900	7.2x	Provides mission support, supply chain and logistics services globally to the U.S. government
Dec 2015	CUBIC	GATR	233	NA	Manufactures inflatable satellite communication antennas and terminals that provide deployment and high-bandwidth communications in remote and hard-to-reach areas
Dec 2015	CUBIC	TeraLogics	39	NA	Leading provider of real-time Full Motion Video PED for the Department of Defense, the intelligence community and commercial customers
Dec 2015	CACI	L3 National Security Solutions	550	8.1x	Provides big data analytics and cloud computing solution services primarily to the U.S. Department of Defense
Nov 2015	COMTECH	TCS TeleCommunication Systems	405	11.4x	Develops and delivers wireless communication technology in the United States, Europe, Latin America, Africa, and Asia
Nov 2015	Honeywell	COM DEV	345	12.0x	Designs, manufactures, and distributes space-based wireless communications products and subsystems in Canada and internationally
Nov 2015	IAP Ingenuity and Purpose	DRS Technologies Tactical Communications & Network Solutions Assets	NA	NA	Provides full life cycle mission support solutions to the U.S. Department of Defense and Intelligence Agencies
Oct 2015	Benchmark	SECURE	230	NA	Designs and manufactures tactical mission computing products for military, commercial aviation, industrial, government, and telecommunications markets
Sept 2015	Veritas Capital	GE Embedded Computing	NA	NA	Manufactures single-board computers and electronic embedded systems for aerospace, defense, and industrial solutions
Aug 2015	CSC Government Services	SRA	NA	NA	Provides information technology (IT) and professional services to the United States federal government
Aug 2015	The Carlyle Group	NOVETTA	NA	NA	Provides advanced analytics software and solutions to detect threat / fraud, and protect high value networks for government and commercial enterprises
Jul 2015	Veritas Capital	ALION	~700	~10.0x	Provides engineering, information technology, naval architecture, and operational solutions for defense, civilian, and foreign governments, and commercial industries
Jul 2015	Lockheed Martin	Sikorsky	9,000	9.7x[1]	Designs, manufactures, and services military and commercial helicopters

Recent Mergers and Acquisitions in the PS3 Industry

(Information from Jeffries presentation to the PS3 Industry Study, 17 March 2016)

ENDNOTES

[1] Moshe Schwartz, Congressional Research Service, "Department of Defense Contractors in Afghanistan and Iraq: Background and Analysis," May 13, 2011, Summary. Available at https://www.fas.org/sgp/crs/natsec/R40764.pdf. Last viewed 17 May 2016.

[2] COL Quenton Rashid, "Private Sector Support and Services (PS3) Industry Studies, Seminar 2, Lesson 1 Introduction," briefing slides with commentary, Fort McNair, Washington, D.C., The Eisenhower School for National Security and Resource Strategy, 19 November 2015.

[3] Ibid.

[4] Office of the Secretary of Defense, *Report of the Defense Science Board Task Force on Improvements to Services Contracting*, Washington, D.C., March 2011. (Informally referred to as the "Gansler Report.") Available at http://www.acq.osd.mil/dsb/reports/ADA550491.pdf. Last viewed 17 May 2016.

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[10] "Big Five companies" is an informal term for the largest five companies in the defense industrial base. It includes Lockheed Martin, Northrop Grumman, Boeing, Raytheon, and General Dynamics.

[11] There is no explicit definition for "mid-sized company" in the PS3 industry, and various studies use different measurements to categorize PS3 firms. For example, the 2013 Annual Industrial Capabilities Report to Congress defines mid-sized PS3 firms as follows: "A company is defined as being mid-sized if it has less than $1B in annual revenues but is not classified as a small business by government standards."

[12] Undersecretary of Defense for Acquisition, Technology and Logistics, "Annual Industrial Capabilities Report to Congress," August 2012, pp. 17-18. Available at http://www.acq.osd.mil/mibp/docs/annual_ind_cap_rpt_to_congress-2012.pdf. Last viewed 17 May 2016.

[13] This assertion was cited multiple times by company representatives meeting our seminar, to include: Dyncorp, 4 February 2016; KBR, 25 February 2016; Sierra Nevada Corporation, 26 February 2016; Mantech, 3 March 2016; and Fluor, 29 March 2016.

[14] This was asserted by several companies meeting our seminar, e.g., Weiner-Wittenberg Consulting, 4 April 2016.

[15] This was asserted by several companies meeting our seminar, e.g., Itility, 19 February 2016.

[16] Budget Control Act, Public Law 112-25, enacted 2 August 2011. Available at https://www.gpo.gov/fdsys/pkg/PLAW-112publ25/pdf/PLAW-112publ25.pdf. Last viewed 17 May 2016.

[17] This was asserted by a Wells Fargo industry analyst during a seminar meeting on 1 March 2016.

[18] The term "Defense Primes" was used by Jeffries, JF Lehman and Goldman Sachs to describe the "Big Five" defense contractors. These companies include Lockheed Martin, Northrop Grumman, Boeing, Raytheon, and General Dynamics. Jeffries also includes two other firms—BAE and L3 Communications—to its definition of "Defense Primes."

[19] This information was provided by a representative from Jeffries during our seminar visit to Jeffries, New York City, on 17 March 2016.

[20] Our seminar received a defense industry analyst bulletin from Wells Fargo after our seminar met with Wells Fargo on 1 March 2016; the bulletin included information about the improving government services market outlook.

[21] Our seminar discussed renegotiation of salaries within the PS3 industry workforce with, among others, Itility on 19 February 2016 and KBR on 25 February 2016.

[22] KBR presentation to the PS3 Industry Study, 25 February 2016.

[23] Goldman Sachs representative presentation to the PS3 Industry Study, New York City, 18 March 2016.

[24] For example, ManTech, AWS, and Itility are examples of service-pure companies the PS3 seminar met with in the course of our industry study.

[25] Fluor presentation to the PS3 Industry Study, 29 March 2016.

[26] Mantech presentation to the PS3 Industry Study, 3 March 2016.

[27] Marketline, "Company Profile: Mantech International Corporation," p. 20, 24 December 2015.

[28] Itility presentation to the PS3 Industry Study, 19 February 2016.

[29] Mantech 2015 10-k annual SEC filing, p. 8. Available at http://investor.mantech.com/sec.cfm?DocType=Annual&Year=&FormatFilter=. Last viewed 17 May 2016.

[30] Bollore Africa presentation to the PS3 Industry Study, 9 February 2016.

[31] Dr. Birthe Anders presentation to the PS3 Industry Study, 22 March 2016.

[32] United Kingdom 2015 Strategic Defence and Security Review, November 2015. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/478933/52309_Cm_9161_NSS_SD_Review_web_only.pdf. Last viewed 17 May 2016.

[33] United Kingdom Ministry of Defence presentation to the PS3 Industry Study, London, UK, 28 April 2016.

[34] Laws such as the Buy American Act (41 U.S.C. 8301-8305) and Berry Amendment (10 U.S.C. 2533a) serve as significant barriers to entry for foreign firms to enter the domestic market supporting the US Government and Department of Defense.

[35] "The Acquisition Strategy, A Roadmap to Program Management Success," Defense AT&L, May-June, 2012. Available at http://www.dau.mil/pubscats/ATL%20Docs/May_Jun_2012/DATL%20May_June2012.pdf. Last viewed 17 May 2016.

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[37] William M. Solis, Government Accountability Office, "Sound Practices Critical to Ensuring Value for the Defense Logistics Agency's Acquisitions," Testimony before the Defense Acquisition Reform Panel, Committee on Armed Services, House of Representatives, September 24, 2009. Available at http://www.gao.gov/new.items/d091040t.pdf. Last viewed 16 May 2016. (Hereinafter "Solis Testimony.")

[38] For example, this issue was discussed with Itility during our seminar meeting on 19 February 2016.

[39] Solis Testimony.

[40] See Department of Defense Instruction 5000.74, Defense Acquisition of Services, dated 5 January 2016 and Better Buying Power principles, available at http://bbp.dau.mil.

[41] Barbara A. Duncombe and Joshua D. Prentice, "Lowest Price Technically Acceptable: The Good, the Bad, and the Reality." Dayton Business Journal, Oct 9, 2013. Accessed on Mar 21, 2016 at: http://www.bizjournals.com/dayton/news/2013/10/09/lowest-price-technically-acceptable.html

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[51] Squire Patton Boggs website, "*Defense Industry Outlook: Budget Battles, State of the Market, and New DOD Oversight Policy for M&A Transactions*." Available at http://www.squirepattonboggs.com/insights/events/2016/02/defense-industry-outlook-budget-battles-state-of-the-market-and-new-dod-oversight-policy-for-m-and-a-transactions. Last viewed 17 May 2016.

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[53] Ibid.

[54] Goldman Sachs presentation to the PS3 Industry Study, 18 March 2016 and Jeffries presentation to the PS3 Industry Study, 17 March 2016.

[55] Jeffries presentation to the PS3 Industry Study, 17 March 2016.

[56] This concept was discussed during the Sierra Nevada Corporation presentation to the PS3 Industry Study, 26 February 2016.

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[60] Dunigan.

[61] Christopher Kinsey and Malcolm Hugh Patterson, *CONTRACTORS & WAR, The Transformation of US Expeditionary Operations*, Stanford, California, Stanford University Press, 2012.

[62] Mantech 2015 10-k annual SEC filing. Mantech recently acquired several companies that were prime contractors on cyber and health care contracts.

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