



Calhoun: The NPS Institutional Archive
DSpace Repository

Faculty and Researchers

Faculty and Researchers' Publications

2005

Commodity sourcing strategies: processes,
best practices, and defense initiatives

Rendon, Rene G.

Journal of Contract Management

Journal of Contract Management, Summer 2005, pp. 7-20.

<http://hdl.handle.net/10945/40275>

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. Copyright protection is not available for this work in the United States.

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>

Commodity Sourcing Strategies: Processes, Best Practices, and Defense Initiatives

This article discusses the procurement transformation within the commercial and DOD sectors, specifically as it applies to developing procurement strategies and the implementation of commodity strategies as an application of strategic sourcing.

BY RENE G. RENDON

Abstract

Background

This research discusses the transformation occurring in the procurement and purchasing function, specifically as it applies to developing procurement strategies and the implementation of commodity strategies as an application of strategic sourcing. The literature review presents the theoretical framework surrounding the transformation of purchasing to supply management along with its major developments such as integrated supplier relationships, total ownership costs, cross-functional teams, supply chains, e-procurement systems, and strategic sourcing strategies.

Methods

Strategic sourcing and developing sourcing strategies are discussed, and commodity sourcing strategies are also discussed in conjunction with Lasseter's seven-step process for developing commodity sourcing strategies. The application of strategic sourcing in the commercial sector is discussed using examples from industry, along with applications within the Department of Defense (DOD).

Results

Some challenges to strategic sourcing identified in the research include access to the required spend data, highly fragmented supply base, and government procurement goals. The research also identifies best practices such as establishing common processes and tools, using cross-functional teams, ensuring adequate team sponsorship and authority, and aggressively managing purchasing requirements.

About the Author

DR. RENE G. RENDON, CPCM, CFCM, PMP, C.P.M., FELLOW, is on the faculty of the Graduate School of Business and Public Policy at the U.S. Naval Postgraduate School (NPS) in Monterey, CA, where he teaches graduate courses in acquisition and contract management. Send comments on this article to cm@ncmahq.org.

This article is adapted from the research report Commodity Sourcing Strategies: Supply Management in Action, for the Naval Postgraduate School's Acquisition Research Sponsored Report Series, January 2005. More information on the Naval Postgraduate School's Acquisition Research Program is available at <http://www.nps.navy.mil/gsbpp/ACQNI>.

Conclusion

The research concludes that strategic sourcing initiatives have resulted in significant cost reductions, increases in productivity, quality improvement, and return on investment. DOD's strategic sourcing initiatives have also resulted in significant savings, albeit with some obstacles and barriers yet to overcome.

Introduction

Organizations are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. In order to survive in this turbulent marketplace, these organizations must continually monitor their competitive position as well as their internally controllable processes—especially the procurement process. The DOD is no exception. The DOD annually procures billions of dollars worth of systems, supplies, and services in support of the national military strategy. The Fiscal Year 2005 proposed budget included \$143.8 billion for RDT&E (research, development, test, and evaluation) and procurement of defense-related supplies and services.¹ Faced with the challenges of the Global War on Terrorism and the fiscal battles of budget cuts and resource constraints, the DOD must monitor its procurement process to ensure a continuous flow of critical supplies and services. The DOD procurement process will continue to increase in importance as it acquires mission-critical and complex supplies and services.

As part of its "procurement transformation initiative," the DOD's procurement process is currently undergoing a transformation similar to the transformation being experienced by the commercial sector. This transformation is changing the way DOD manages its procurement function—to include its people, processes, practices, and policies. The DOD's procurement function is currently transforming from a transaction-oriented perspective to a strategic-oriented enterprise. This article will discuss the transformation occurring in the procurement and purchasing function, specifically as it applies to the implementation of commodity strategies as an application of strategic sourcing. First, the

theoretical framework surrounding the transformation of procurement to supply management will be discussed, along with its major developments. Second, the application of commodity strategies within the commercial industry will also be discussed along with initiatives within the DOD. Finally, this article will identify lessons learned, best practices, and recommendations for the Department of Defense's commodity sourcing strategy initiatives.

From Purchasing to Supply Management

The transformation of the purchasing and procurement function from a passive, administrative, and reactive process to a proactive, strategic, boundary-spanning function was predicted back in the early 1960's purchasing literature when Henderson stated that the procurement function would gain increased importance in corporate management.² As we continue into this new millennium, the purchasing and procurement transformation continues to build up steam and reap benefits for leading-edge organizations. The procurement transformation reflects a new approach to purchasing and procurement that embraces the other supply chain management functions of materials management, logistics, and physical distribution—this new approach has been labeled "supply management" by many organizations and industries.³ This supply management focus requires organizations to adopt a strategic orientation to their procurement function and to look more at the total supply chain management process and its effect on the organization's competitive strategy. More specifically, the supply management focus involves linking the organization's procurement strategy with its corporate competitive strategy. This requires supply managers to become active participants in developing their organization's strategic business plan, which now includes the integration of supply, marketing, finance, and conversion strategies.⁴

Supply management has been described as a new management concept that integrates the company's purchasing, engineering, and quality assurance functions with the supplier, working

together as one team early in the procurement process to further mutual goals.⁵ Of course, the supply function has always existed in all organizations ensuring that all needs are met in terms of quality, quantity, delivery, cost, service, and continuity. However, the traditional view of supply focused more on the function's operational or "trouble avoidance" contribution to organizational objectives. The new concept described focuses on supply management's strategic contributions to organizational objectives, such as the opportunistic or profit-maximizing aspects. In addition, this concept of strategic supply management differs from the traditional approach in the fact that the organization becomes integrated with selected suppliers, working as one team toward mutual goals. This concept also differs significantly from the traditional adversarial approach to supply management in which suppliers were kept at an arms-length distance from the organization. Traditionally, purchasing managers' performance was measured based on their ability to reduce the purchased price of supplies and services, their ability to keep the production line running, and their ability to reduce the cost of the purchasing department. With the new supply management focus, organizations are looking to the supply management function to focus on value-adding outputs such as quality, total ownership cost, time to market, technology, and continuity of supply. Other major developments in the transformation of purchasing to supply management include the breaking down of functional walls with the use of cross-functional teams, the development and management of supply chains and supply alliances, the use of electronic procurement systems, and the adoption of strategic sourcing approaches.⁶

Strategic Sourcing and Commodity Strategies

Strategic sourcing is probably the most significant aspect characterizing an organization's transformation to supply management. It is also this aspect of supply management which provides some of the most value-added benefits to the organization. Sourcing, one of the major

steps in the procurement process, involves the identification and selection of the supplier whose costs, qualities, technologies, timeliness, dependability, and service best meet the organization's needs.⁷

Strategic sourcing involves taking a strategic approach to the selection of suppliers—an approach that is more aligned with the organization's competitive strategy. Strategic sourcing reflects the integration of procurement or sourcing strategy with corporate strategy. The integration of procurement and corporate strategy is reflective of the transformation of purchasing to supply management.

One example of strategic sourcing is the commodity sourcing strategy, which focuses on developing a specific sourcing strategy for a category or group of supplies or services. This is just one application of strategic sourcing: the development and application of a carefully crafted strategy for the procurement of quality supplies and services at the lowest cost.⁸ It should be noted that the term "commodity" should not be associated with traditional commodities such as copper, ore, cotton, or barley, nor should it be associated with non-complex supplies or services. The term "commodity" is used solely to refer to categories or groups of supplies or services. The success of commodity strategies is based on maximizing the cost-reduction advantages of leveraging combined buying power for volume discounts, using market experts to formulate a sourcing strategy, and finally, forming strong relationships with preferred suppliers.⁹

Commodity sourcing strategies require a distinct strategy planning process developed for that specific group of supplies or services. Lasseter's Balanced Sourcing Model reflects a generic commodity strategy planning process involving the following seven steps:¹⁰

- (1) The spend analysis is the first step toward integrating an organization's sourcing strategy with its competitive strategy. It is this critical step that forces an organization to analyze all the goods and services that are purchased and are forecasted to be purchased in the

future by the organization.¹¹ This involves aggregating total purchases across all organizational divisions both for supplies and services and by supplier. Additionally, the spend analysis should also reflect the total cost of ownership, not just the purchase price of the supply or service, as well as the various end-users throughout the organization.¹² The output of the spend analysis is a complete, documented understanding of the organization's past and future purchases for supplies and services, segregated by users and suppliers.

- (2) The second step of the commodity strategy process is an examination of the supply industry to determine the major suppliers of the specific supply or service by market share and geographical region.¹³ The industry analysis should also consider the various competition dynamics using Porter's Five Forces of Competition—customer power, supplier power, inter-company competition, threat of substitution, and new market entrants.¹⁴ The result of the industry analysis should reflect a diagram of the supply industry for that specific supply or service, highlighting the flow of product from key suppliers to major customers, as well as the different roles each company plays, such as assembler, manufacturer, or distributor.¹⁵
- (3) Identifying and documenting cost and performance drivers is the third step in the commodity strategy process. The buying organization must have a thorough understanding of the cost drivers and other important performance metrics such as quality, level of technology, flexibility, and timeliness. A suggested approach for implementing this step is to map the manufacturing process and document the technology options at each stage to get further insight into the cost and performance drivers for the specific supply or service.¹⁶
- (4) The supplier role analysis step of the commodity strategy process entails segmenting the supplies or services across a set of differentiated supplier roles. The purpose of this step is for the buying organization to determine the type of suppliers needed and the roles the suppliers should play in terms of supply management. This may involve thinking in terms of sub-commodities or end-users, or by stages of the product life cycle. Whichever method is used, the important point is to segment the spend by suppliers reflecting the cost drivers identified in the previous phase. The different cost drivers, sub-commodities, or life cycle may indicate the need for a separate sourcing strategy for each sub-commodity, or life-cycle segment.¹⁷
- (5) When the supply/service cost drivers and performance metrics are identified, and the supplier types and roles have been determined, the next step is to confirm whether the buying organization's business processes are properly aligned, prioritized, and integrated. The focus here is to use the analysis of cost drivers and supplier roles to realign business-process priorities to reflect the desired degree of integration with selected suppliers. The result of this step is a determination of which business processes should be realigned to achieve better integration with suppliers, thus committing to a cooperative relationship and creating a competitive advantage.¹⁸
- (6) The savings quantification step of the commodity strategy planning process ensures that the resulting commodity strategy results in measurable savings, and uses those saving targets as a metric for not only measuring the process of the strategy, but also for "selling" the resulting commodity strategy to senior organizational management.¹⁹
- (7) The final step in developing the commodity strategy is to implement the plan. Implementing a commodity strategy plan should be approached in the same manner as any other major project. Using a formal project management methodology and associated tools will ensure a successful commodity

strategy plan implementation. This entails translating the planned strategy into a set of tasks that will result in the targeted savings. The tasks should reflect activities, resources, and milestones for achieving the savings targets.²⁰ Various project management tools such as work breakdown structures (WBS), Gantt charts, network diagrams, and critical paths are useful tools for implementing the plan and monitoring its progress.

Once the commodity strategy plan has been implemented the organization must continually monitor its progress to ensure the strategy remains effective and responsive to the changes in the internal and external environment. This continual monitoring should include identifying supplies or services that are (or will be) strategic in the future and identifying changes in the supply environment threats and opportunities. In addition, the organization must also continually monitor critical and current technologies that must be pursued, as well as take action to minimize the possibility of supply disruptions and price increases.²¹

Lasseter's commodity strategy planning process provides an effective template for developing a commodity sourcing strategy for a specific group of supplies or services. The next section of this article will discuss the application of strategic sourcing and commodity strategies in the commercial industry.

Commercial Applications

The development and implementation of commodity strategies as part of strategic sourcing has been considered a future trend and purchasing best practice of leading organizations. A 1998 research study conducted by the Center for Advanced Purchasing Studies (CAPS) identified strategic sourcing as one of 18 trends that will influence the purchasing function within the next 10 years.²² Specifically concerning strategic sourcing, the CAPS study indicated that

Strategic sourcing will drive supply chain management initiatives. Comments from the focus group participants indicate that

there are two related but distinct trends occurring. First, supplier assessment metrics will become more detailed and precise as purchasing spends more and more time examining finer and finer levels of detail in performance. Second, the metrics will become more individualized as companies specialize the metrics for individual supplier performance. Companies will create supply strategies to achieve cost and technology advantages. These two trends will increase the level of complexity involved in managing supplier evaluation and assessment systems.

Over the next 10 years, there will be an intellectual fight over designing metrics that are very specific for particular chains. However, the metrics cannot be so complex that they are difficult to manage on a corporate level. There is no strong trend occurring to reduce complexity and standardize as much as possible by applying one metric throughout a supply chain.²³

Additionally, the CAPS research also identified purchasing strategy development—the linking of procurement strategy with corporate strategy—as another trend influencing the transformation of the purchasing function. The CAPS study indicated that

It is likely that there will be increasing linkages between supply chain and business unit/companywide strategy as supply chain strategies become more focused and formalized, and as firms look for innovative sources of competitive advantage. As supply chain management becomes more advanced, cost, technology, quality, and time drivers throughout the supply chain will become better identified. Performance of the supply chain will be measured more effectively, and executive performance will be linked to both internal and external supply chain performance.²⁴

Furthermore, in a 2001 purchasing study,

the researchers identified 20 purchasing best practices that have been successfully adopted by leading purchasing organizations. Two best practices include

- Having a written sourcing strategy for every supplier and every part/commodity, and
- Implementing strategic planning and administration.

According to the research study, the commodity strategy best practice has been implemented by Honda, Toyota, EMC, and Sun Microsystems. These companies have dedicated commodity teams that watch market trends and develop reaction scenarios to take advantage of those market changes. Leading organizations that have implemented strategic planning and administration include Harley-Davidson, Honda, John Deere, and SmithKline Beecham. These organizations have increased the role purchasing plays in strategic planning by developing a strategy for each supplier and for each commodity. In these organizations, commodity team members are continuously gathering commodity information and technology capabilities three to five years into the future.²⁵

A review of the top purchasing organizations indicate that strategic sourcing and, specifically, commodity strategies are elements of a total purchasing transformation effort that has laid the groundwork for tremendous cost reductions, increases in productivity, quality improvement, and return on investment. Because of their great strides toward integrated supply management, IBM, Deere, Lucent Technologies, Cessna Aircraft, and Hewlett-Packard have all been awarded the *Purchasing Magazine* Medal of Professional Excellence. This coveted honor is awarded to organizations that epitomize the best in purchasing excellence and professionalism.²⁶ The following discussion summarizes these companies' implementation of strategic sourcing and commodity strategies.

IBM significantly turned its purchasing operation upside down in the mid-1990s when it transformed from a tactical purchasing focus

to a strategic focus—where procurement is now mission critical. IBM's implementation of strategic sourcing included centralizing its purchasing function and creating 17 commodity councils as a method for leveraging its corporate buying power. These commodity councils combined the requirements (such as drums, microprocessors, monitors, and electronic cards) of all of IBM's divisions and negotiated long-term contracts with suppliers, resulting in lower prices. These commodity councils also resulted in a major reduction in IBM's supplier base with related cost savings. In 1993, IBM had about 4,900 production suppliers. By 1999, IBM significantly reduced its supplier base to a point where about 85 percent of its \$17.1 billion production buy was with only 50 suppliers. IBM's procurement transformation saved the company hundreds of millions of dollars during the mid-1990s and was instrumental in helping IBM return to profitability.^{27, 28}

Deere & Co., the world's famous equipment manufacturer, implemented strategic sourcing and commodity councils by developing procurement strategies for four materials classifications: unique products, critical products, generics, and commodities. The four categories represented 49 direct materials and 15 indirect materials. These best practices have allowed Deere to reduce the number of MRO suppliers from 1,675 to 20, and cut costs by 13 percent.²⁹

Lucent Technologies implemented strategic sourcing by developing and implementing sourcing strategies for about 70 different commodities ranging from metals to memory chips. By taking a commodity approach to sourcing, each commodity team identified the top suppliers, looking at each of their financials, global capacity, location, and technology advantage as well as their competitors. In 2002, Lucent was able to reduce its number of suppliers from over 3,000 to fewer than 1,500. About 60 suppliers now account for over 80 percent of Lucent's spend. This is a drastic change from 1999 when more than 1,000 suppliers accounted for less than 40 percent of the spend. Furthermore, Lucent has experienced significant improvement on component prices, and in some commodities, Lucent has been able to reduce prices by 50 percent.³⁰

Cessna Aircraft Co. has also implemented strategic sourcing by creating long-range strategic plans and cross-functional commodity teams that have worked to rationalize the company's supplier base. These commodity teams are made up of representatives from supply chain, manufacturing engineering, quality engineering, product design, reliability engineering, product support, and finance departments. These teams are responsible for developing commodity strategies that directly support the corporate strategic objectives. Based on its strategic sourcing efforts, Cessna has realized an 86-percent improvement in supply chain quality, 28-percent improvement in material availability, 113-percent improvement in production inventory turns, and a significant cost takeout throughout the supply chain.³¹

Hewlett-Packard's (H-P) strategic sourcing initiatives have resulted in savings of \$1 billion in materials costs. Through its extensive spend-analysis program and its database of spend data, information can be sliced and diced by commodity, supplier, region, and by business unit. With all of the H-P buyers having access to this information through a secure Web site, they can have the advantage of negotiating better prices or better terms and conditions on all commodity procurements. Furthermore, H-P uses commodity teams—consisting of procurement engineers, product marketing, and research and development specialists—to focus on new-product introduction and on how new products and suppliers are performing. These commodity teams are responsible for sharing product plans with suppliers, determining which supplier has the technology and products that will be needed, and then formulating sourcing strategies for these products. H-P's commodity teams have been instrumental in reducing its supply chain costs as a percentage of revenue by 22 percent, cutting inventory by 21 percent, and reducing H-P's logistics cost per box by 11 percent in 2004. Finally, H-P's strategic sourcing programs have resulted in more collaborative and less transactional relationships with suppliers.³²

Each of these world-class purchasing organizations has successfully implemented strategic sourcing and commodity procurement strategies

and has reaped the benefits of transforming its purchasing function to a strategic integrated supply-chain process. Based on these successes, many government agencies are now beginning to implement and adopt strategic purchasing best practices. The next section will discuss initiatives within the Department of Defense (DOD) to implement strategic sourcing, and specifically, commodity strategies.

Department of Defense Initiatives

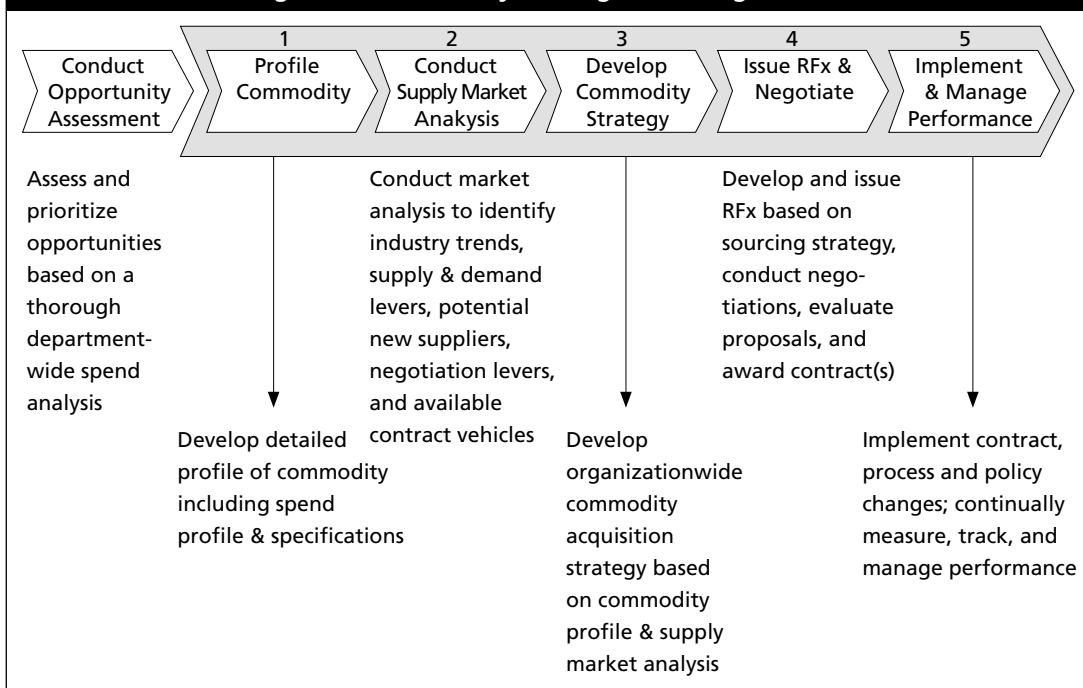
As discussed at the beginning of this article, the DOD's procurement process is currently undergoing a transformation similar to the procurement transformation being experienced by the commercial sector. This transformation includes changes to DOD's procurement processes, policies, and practices. The strategic sourcing initiatives, and specifically the commodity strategy processes, successfully implemented by the commercial sector are now being considered and implemented by the DOD.

The DOD is now taking a strategic approach to its procurement function. In February 2003, Michael W. Wynne, principal deputy under secretary for acquisition, technology, and logistics (USD/AT&L), stated

I am challenging DOD's acquisition community...to take advantage of this opportunity to initiate dramatic improvements to the procurement process...I request you establish a concurrent effort in your respective organizations and interact with our task force as we generate value-added changes to the rules and our processes.³³

Additionally, at the biennial Department of Defense Procurement Conference held in May 2004, Deidre Lee, director of defense procurement and acquisition policy, identified DOD-wide strategic sourcing and commodity councils as procurement processes that are designed so more could be done with less by migrating large contracts to regional centers and consolidating like services.³⁴ Thus, the DOD is poised to begin reaping the benefits of transforming its procure-

Figure 1. Commodity Strategic Sourcing Process



Source: Strategic Sourcing & Spend Analysis Briefing, DoD Procurement Conference, May 27, 2004, Censeo Consulting Group

ment process to reflect an integrated strategic supply management perspective.

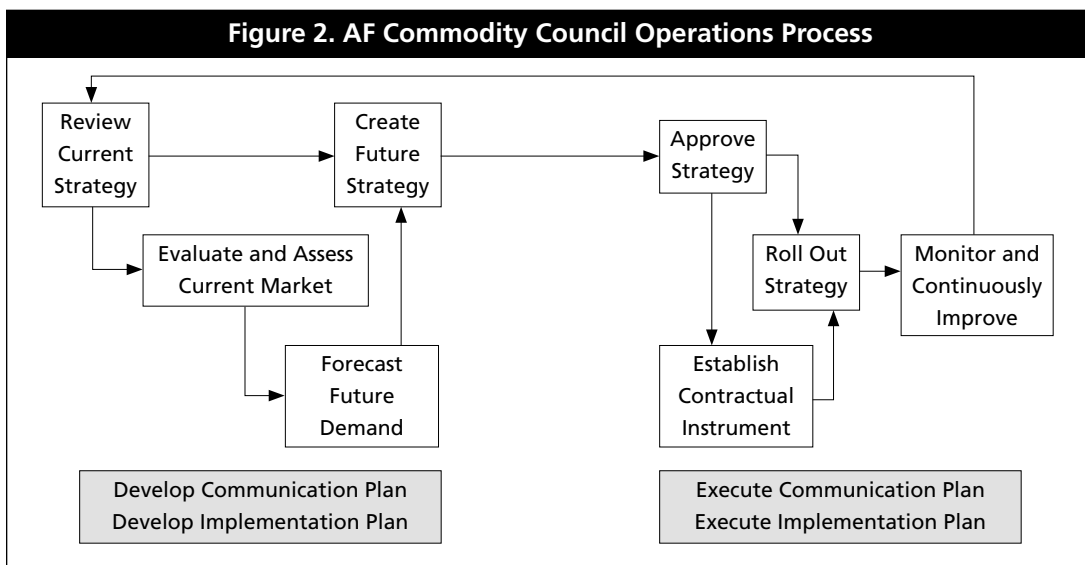
DOD's current initiatives are focused on the strategic sourcing of services, and specifically, on the establishment of service commodity teams. Through its DOD-wide Services Sourcing (DWSS) Program, the department is trying to achieve these objectives:

- Develop department-wide cross-functional acquisition strategies in order to improve total cost of ownership for acquired services,
- Address improvements in meeting socio-economic goals through the use of strategic sourcing,
- Leverage commercial best practices in order to streamline and standardize DOD acquisition business processes, and
- Improve overall skills of DOD acquisition staff through the utilization of commercial tools and processes.

As of May 2004, the DWSS had established the following pilot programs with the services. These programs will initially review the commodity areas of miscellaneous professional services, management/advisory services, and IT services. The following discussion highlights some of the DOD's components' more notable efforts in implementing strategic sourcing and commodity strategies.

As part of the DWSS program, the U.S. Navy has launched a commodity team for the purchase of administrative support services, which is comprised of support functions such as translation, courier services, and word processing. Using the five-step strategic sourcing process illustrated in **Figure 1**, the navy is currently conducting its spend analysis for its service's spending in order to assess and prioritize opportunities for commodity sourcing strategy.

The U.S. Air Force kicked-off its strategic sourcing initiatives in FY 03 with its first commodity council—the Information Technology Commodity Council (ITCC). The air force's commodity council process, as illustrated in



Informational Guidance, AFFARS 5307.104-93

Figure 2, included an extensive spend analysis that identified the top three configuration for computers—one for desktops and two for laptops. Taking advantage of these configurations throughout the air force major commands (MAJCOMS), the air force was able to leverage its buy on these standardized computer products.

In August 2003, after conducting an initial competition, the air force awarded a \$7.5 million contract to Dell for the purchase of 12,500 computers. The savings on this procurement allowed the purchase of an additional 2,500 computers from the original planned procurement.³⁶ In December 2003, the air force completed another commodity buy saving over \$4 million, with the purchase of 14,863 desktops and 763 laptops for three different major commands.³⁷

Based on these recent successes, the IT Commodity Council is developing a commodity strategy for digital printing and imaging products such as printers, scanners, and faxes. Other air force commodity councils in development include air force medical services (professional services, clinical support services, facilities and maintenance support, and contingency services), force protection (gate security and vehicle inspection), and office supplies. The air force is also developing commodity sourcing strategies

for aircraft landing gear/tires/breaks, accessories, and support equipment.³⁸

The Defense Logistics Agency (DLA) has also implemented some of these procurement transformation initiatives, specifically strategic sourcing and strategic alliances. Through DLA's Strategic Material Sourcing (SMS) program, a spend and demand analysis was conducted on over 3.4 million hardware items. Currently, 224,000 items are being sourced through long-term contractual arrangements, leveraging DOD's buying power. Additionally, DOD's objectives in its Strategic Supplier Alliances (SSA) Program is to move away from transactional, one-time buys and to establish more long-term contractual arrangements. Through SSAs, DLA has been successful in achieving overall price reductions of 20 percent for the items under long-term contracts, with initial efficiencies aggregating \$55 million savings from FY 1999 to FY 2003 from one-time inventory reductions.³⁹

Challenges to Strategic Sourcing

DOD's procurement transformation initiatives are not without challenges to implementation. Not only do the same barriers that affect the commercial sector also impact DOD's transformation initiatives, but also some unique government obstacles affect the transition.

These include multiple sources of data, inconsistent or erroneous item identification and supplier identification, and lack of qualified available resources.⁴⁰

A significant obstacle to implementing strategic sourcing activities, specifically commodity councils, is accessibility of the required spend data for a commodity group of supplies or services in order to conduct a valid spend analysis. The DOD currently has limited insight into what it buys and from whom it buys (at the enterprise level), thus resulting in many obstacles. In addition, each military service and agency procures similar supplies and services across the DOD, with little coordination among procurement offices. Furthermore, current existing procurement data resides in numerous disparate applications located throughout the DOD.⁴¹

One obstacle to conducting a spend analysis includes the highly fragmented supply base supporting the DOD, along with the numerous contracting offices throughout the DOD awarding contracts. The DOD has air force, army, and navy contracting offices scattered all across the globe, each office conducting its own procurement for services and supplies. Having access to the detailed types of information needed to assess its spend data is one area in which the DOD is facing challenges.

Another obstacle includes the numerous problems associated with the DD Form 350—Individual Contracting Action Report. This report, submitted every time a contract is awarded that obligates funds, is used to collect data on contract placement statistics within DOD. The data gathered by means of the DD Form 350 are used for reporting the size and distribution of DOD procurement actions, as well as other procurement statistics. The DD Form 350 has frequently been plagued with coding or data entry errors, insufficient details, or incomplete data. These data errors and deficiencies have always existed, but now they are impacting the DOD's ability to access current and accurate procurement data, which is critical for conducting an effective spend analysis.⁴²

The DOD is responding to the challenge of accessing valid spend data with its Acquisition

Spend Analysis Pilot Program. This pilot program will develop a net-centric spend analysis capability that can be scalable across the DOD, prove the possibility to reduce the complexity of data integration across the DOD, and demonstrate key net-centric attributes by pulling data from disparate data sources, mapping and transforming the data to a common model, and producing DOD enterprise spend reports. The pilot program will produce the following seven spend analysis reports—total spend, total number of contracts, average dollars per contract, geographical dispersion, supplier concentration, supplier diversity, and total dollars by supplier. The pilot will also produce an ad hoc capability that can be leveraged in strategic sourcing activities.⁴³

The fact that DOD's procurement processes are governed by public law and are focused on achieving public goals and objectives results in another category of challenges and obstacles in implementing strategic sourcing and commodity strategies. As stated in the *Federal Acquisition Regulation (FAR)*, the vision of the Federal Acquisition System is to deliver on a timely basis the best-value product or service to the customer, while maintaining the public's trust and fulfilling public policy objectives.⁴⁴ Federal procurement contracts are used as vehicles for implementing social programs that promote dispersion of wealth by providing economic opportunities for small business and disadvantaged business as well as other classes of protected groups.⁴⁵ Some of these public policy objectives include maximizing competition and providing maximum opportunities for small and disadvantaged businesses. The implementation of strategic sourcing and commodity councils has the potential to restrict competition and limit opportunities for small businesses. Thus, there are multiple stakeholders involved in, and who have an influence on, the DOD procurement process. These multiple stakeholders may eliminate the possibility of an optimized procurement solution—such as a strategic sourcing strategy that leverages the buying power of the DOD, may limit or exclude small businesses from the procurement.

Finally, an additional challenge to implementing strategic sourcing is the DOD's ability to evaluate and analyze the return on investment (ROI) of strategic sourcing initiatives. Obviously, the instant savings realized from large-quantity leveraged buys of specific commodities, such as IT products, provide an initial assessment of dollars saved per procurement. However, the long-term implications to life-cycle cost (LCC), also known as total ownership cost (TOC), have yet to be determined or quantified. The ripple-effect resulting from standardizing the configuration of procured supplies (for example, computer desktops) and procuring in high volume for an increased number of customers, as it relates to system supportability and maintainability, have yet to be balanced with the additional costs of implementing strategic sourcing, such as training and infrastructure costs.

Best Practices in Strategic Sourcing

Strategic sourcing, and specifically commodity sourcing strategies, has been successfully implemented by commercial companies as well as by DOD agencies. The best practices and key elements that have proven to be critical success factors in strategic sourcing initiatives are common throughout both sectors. These best practices and critical success factors include the following elements.

Common Processes and Tools

Since commodity strategies focus on leveraging the purchasing power of the entire organization, with all its various geographically separated sub-units, one best practice involves the development and implementation of common purchasing processes and purchasing tools. The establishment of a standard commodity-strategy process and the implementation of spend-analysis tools to determine the what, who, where, and when of organizational spending is certainly a critical success factor in strategic sourcing.^{46, 47}

Cross-Functional Teams

The use of cross-functional teams, more specifically trained and educated purchasing

teams, is also considered a critical success factor in implementing commodity strategies. These teams consist of the various functional representatives having a stake in the item or service being procured. These team members are educated and multi-skilled in all aspects of the commodity such as requirements analysis, cost analysis, purchasing and supply chain management, and negotiations. Critical to the establishment of cross-functional teams is the inclusion of end-user customers and technical experts in the decision-making process. Such inclusion would more likely affect successful customer participation and collaboration.⁴⁸⁻⁵⁰

Team Sponsorship and Authority

Especially critical to the success of commodity teams and commodity strategies is the sponsorship of the strategic sourcing initiative; likewise, the level of authority given to the sourcing team is vital. The commercial and defense sector's experience indicate that proper governance and strong sponsorship of commodity teams are essential elements to ensuring the success of the commodity strategy. The sponsor's role includes providing goals and resources, as well as being an advocate of the sourcing initiative and knocking down obstacles and barriers. Equally as critical is the authority given to the commodity team. By being held accountable for meeting the sourcing goals, and by being given the authority to make decisions, the team will keep from becoming a "committee reduced to offering hopeful recommendations."^{51, 52}

Requirements Management

Commodity strategies involve consolidating all of an organization's requirements for a specific supply or service into one or a few standardized configuration requirements. This typically receives negative responses and push-back from end-user customers. This is one area where the team sponsor must take an active role. How an organization manages the specification of the supply or service being procured determines the degree of leverage power that organization has in the marketplace. Successful strategic sourcing will require stern specification management

on the part of the commodity team, and full backing by the sponsor, with justice for “maverick spenders.”^{53, 54}

Conclusions and Recommendations

This article discussed the procurement transformation within the commercial and DOD sectors, specifically as it applies to developing procurement strategies and the implementation of commodity strategies as an application of strategic sourcing. The theoretical framework surrounding the transformation of procurement was discussed, along with its major developments. Corporate procurement strategy and procurement strategy development methods were then discussed, along with the use of commodity strategies and commodity teams as methods for implementing focused procurement strategies. Commodity sourcing strategy lessons learned, best practices implemented, and recommendations for the Department of Defense were also identified. The implementation of strategic sourcing initiatives within the commercial sector has resulted in significant cost reductions, increases in productivity, quality improvement, and return on investment. The DOD’s strategic sourcing initiatives have also resulted in significant savings, albeit with some obstacles and barriers yet to overcome.

Strategic sourcing in the DOD is still in its infancy and has a way to go before it becomes a mature core competency. As DOD continues to adopt strategic sourcing more adeptly, each military service will successfully be implementing commodity strategies for services and supplies for its specific military department. This will include conducting spend analysis and commodity management within the specific military service’s organizations.

The next step in realizing the full potential of the DOD’s buying power is the implementation of joint strategic sourcing initiatives, including the use of joint commodity councils across the DOD agencies. The DOD’s Services Sourcing (DWSS) Program initiative will be instrumental in developing DOD-wide cross-functional acquisition strategies, thus achieving improved total ownership costs (TOC) for acquired supplies

or services. As the DWSS initiative continues, additional research will be needed in the areas of conducting spend analysis for multiple DOD organizations, defining standardized configurations for supplies or services acceptable to DOD-wide customers, and finally, implementing strategic sourcing initiatives which leverage the buying power of the DOD. Furthermore, additional research exploring the implications of the DOD’s strategic sourcing and other procurement transformation initiatives on the department’s management infrastructure (such as procurement workforce transformation, training and education of commodity teams, and the establishment of commodity team or sourcing program management offices) will be needed. **JCM**

Endnotes

1. G. Cahlink, “Seeking Services,” *Government Executive* (August 15, 2004): 46.
2. B.D. Henderson, “The Coming Revolution in Purchasing,” *Journal of Purchasing and Materials Management* 11, no.2 (Summer, 1975): 44-46.
3. K.R. Bhote, *Strategic Supply Management: A Blueprint for Revitalizing the Manufacturer-Supplier Partnership* (New York: AMACOM, 1989).
4. D.N. Burt, D.W. Dobler., & S.L. Starling, *World-Class Supply Management: The Key to Supply Chain Management* (New York: McGraw-Hill Irwin, 2003).
5. Bhote, *Strategic Supply Management: A Blueprint for Revitalizing the Manufacturer-Supplier Partnership*.
6. Burt, *World-Class Supply Management: The Key to Supply Chain Management*.
7. Ibid.
8. E.G. Gabbard, “Strategic Sourcing: Critical Elements and Keys to Success” (Paper presented at Institute of Supply Management International Conference, Tempe, Arizona), April 2004. Retrieved from www.ism.ws/ConfPastandOnlineDaily/Files/Apr04/HA-Gabbard.pdf on November 12, 2004.
9. T.S. Reed, D.E. Bowman, and M.E. Knipper, “The Challenge of Bringing Industry Best Practices to Public Procurement: Strategic Sourcing and Commodity Councils,” in K.V. Thai, A. Araujo, R.Y. Carter, G. Callander, D. Rabkin, R. Grimm, K.R.E. Jensen, R.E. Lloyd, C.P. McCue, and J. Telgen (Eds.) *Challenges in Public Procurement:*

- An International Perspective* (Boca Raton, Florida: PrAcademic Press, 2005).
10. More in-depth information on these seven steps can be found in T.M. Lasseter's *Balanced Sourcing: Cooperation and Competition in Supplier Relationships*. (San Francisco: Jossey-Bass, 1998).
 11. J.R. Carter, "Development of Supply Strategies," in J.L. Cavinato and R.G. Kauffman (Eds.), *The Purchasing Handbook: A Guide for the Purchasing and Supply Professional* (New York: McGraw Hill, 2000).
 12. T.M. Lasseter, *Balanced Sourcing: Cooperation and Competition in Supplier Relationships*.
 13. Ibid.
 14. M.E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: The Free Press, 1998).
 15. Lasseter, *Balanced Sourcing: Cooperation and Competition in Supplier Relationships*.
 16. Ibid.
 17. Ibid.
 18. Ibid.
 19. Ibid
 20. Ibid
 21. Burt, *World-Class Supply Management: The Key to Supply Chain Management*.
 22. The complete study, "The Future of Purchasing and Supply: A Five- and Ten-Year Forecast." (Tempe, AZ: Center for Advanced Purchasing Studies, Strategic Supply Research/Institute for Supply Management, September 1998).
 23. Ibid., p. 28.
 24. Ibid., p. 30.
 25. D. Nelson, P.E. Moody, and J. Stegner, *The Purchasing Machine: How the Top Ten Companies Use Best Practices to Manage Their Supply Chains* (New York: The Free Press, 2001).
 26. J. P. Morgan, "Book of Winners," *Purchasing Magazine* Online (2004) Retrieved from www.manufacturings.net/pur/index on November 9, 2004.
 27. J. Carbone, "Reinventing Purchasing Wins the Medal for Big Blue," *Purchasing Magazine* Online (September 16, 1999). Retrieved from www.manufacturings.net/pur/index, on November 9, 2004.
 28. Reed, "The Challenge of Bringing Industry Best Practices to Public Procurement: Strategic Sourcing and Commodity Councils."
 29. D. Smock, "Deere Takes a Giant Leap," *Purchasing Magazine* Online (September 6, 2001). Retrieved from www.manufacturings.net/pur/index on November 6, 2004.
 30. J. Carbone, "Lucent's Supply Chain Focus Fattens Margins," *Purchasing Magazine* Online (September 19, 2002). Retrieved from www.manufacturings.net/pur/index on November 6, 2004.
 31. S. Avery, "Cessna Soars," *Purchasing Magazine* Online (September 4, 2003). Retrieved from www.manufacturings.net/pur/index on November 6, 2004.
 32. J. Carbone, "Hewlett-Packard Wins for the 2nd Time," *Purchasing Magazine* Online (September 2, 2004). Retrieved from www.manufacturings.net/pur/index on November 6, 2004.
 33. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis (May 27, 2004). Retrieved from www.acq.osd.mil/dpap/about/Procurement2004/presentations/D_BoydConsolidatedPanel.pdf on November 12, 2004.
 34. E. Layton, "Director, Defense Procurement and Acquisition Policy, Holds Procurement Conference," *Defense AT&L* (September-October 2004): 90-95.
 35. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis."
 36. T. Temin, "Air Force Council Saves on First PC Commodity Buy," *Government Computer News* (August 27, 2003). Retrieved from www.gcn.com/vol1_no1/daily-updates/23299-1.html on November 6, 2004.
 37. *Air Force Print News* (December 9, 2003). Retrieved from www.af.mil/news/story_print.asp?storyID+123006166 on 27 December, 2004.
 38. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis."
 39. D. Gottlieb, "Military Declares War on Spend," *Purchasing Magazine* (May 20, 2004): 44-48.
 40. Gabbard, "Strategic Sourcing: Critical Elements and Keys to Success."
 41. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis," p. 55.
 42. Ibid.
 43. Ibid.
 44. *Federal Acquisition Regulation* (2000). FAR 1.102. Retrieved from <http://farsite.hill.af.mil/VFFARa.HTML>

45. K.V. Thai, "Public Procurement Reexamined," *Journal of Public Procurement*, 1, no. 1 (Boca Raton, Florida: PrAcademic Press, 2001): 9-50.
46. R.H. Buckenmayer and C.H. Noland, "Strategic Commodity Management: Lessons From a Major Implementation," (Presentation at the 1998 NAPM International Purchasing Conference). Retrieved from www.ism.ws/ResourceArticles/1998/98cp10.cfm on October 3, 2004.
47. Reed, "The Challenge of Bringing Industry Best Practices to Public Procurement: Strategic Sourcing and Commodity Councils."
48. Buckenmayer, "Strategic Commodity Management: Lessons From a Major Implementation."
49. Reed, "The Challenge of Bringing Industry Best Practices to Public Procurement: Strategic Sourcing and Commodity Councils."
50. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis."
51. Buckenmayer, "Strategic Commodity Management: Lessons From a Major Implementation."
52. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis."
53. Buckenmayer, "Strategic Commodity Management: Lessons From a Major Implementation."
54. Department of Defense Procurement Conference, "Strategic Sourcing and Spend Analysis."