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Air Force Commodity Councils: Leveraging the Power of Procurement

30 September 2004

by

1ST Lt Beth Rairigh, US Air Force

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Prepared for: Naval Postgraduate School, Monterey, California 93943



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Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the Federal Government.



Introduction

The United States Air Force is always looking for ways to improve practices while leveraging the taxpayers' dollar. The Air Force currently spends about one-third of its annual budget on purchased goods and services. This offers the Air Force a large target in which to seek cost savings. Commercial firms have moved toward a commodity-council approach for purchasing in recent years, and the cost reductions realized have been impressive. Findings have shown that the increased leverage from commodity councils will optimize buying power for the Air Force, reduce duplication of effort, improve customer support, and minimize supply-chain costs through integration and collaboration.

“Commodity Council” is a term used to describe a cross-functional sourcing team designed to create a centralized purchasing strategy and establish centralized contracts for enterprise-wide requirements. The commodity council drives commonality and standardization and ensures the leveraging of purchasing volume. The key to this approach is to rely on market experts in the specific commodity category to make well informed, market-savvy decisions that fully meet all enterprise-wide requirements for a commodity. A “commodity” is simply defined as a segmentable category of goods and/or services. Note, this definition does not imply an expendable or non-complex item (Hansen 1). In this research, I analyze the experiences of the newly-formed Air Force Information Technology Commodity Council (AFITCC) at Headquarters Standard Systems Group (HQ SSG or SSG), Maxwell Air Force Base (MAFB)—Gunter Annex, Alabama, for results and lessons learned.



Literature Review

According to *Purchasing Magazine's* 10 October 2002 issue, there has been a strong push by corporate leaders to slash costs, and they are looking to the purchasing department to do so. Cost reduction strategies seen in industry include volume leverage across business units or locations, parts standardization, leveraging relationships through better comprehension of the amount of business done with suppliers' various locations, and automated purchasing processes. Other areas being targeted include inventory and the costs associated with writing and processing purchase orders (PO). The commercial sector has set an average objective for cost reduction of 12%. Savings of or about this amount would have a tremendous impact upon operations in the United States Air Force ("Buyer's cost reduction").

Recently, the Center for Advance Purchasing Studies (CAPS) conducted a study to develop an understanding of the changes the purchasing profession will face over the next ten years. The study showed that companies will continue to reduce the number of suppliers with whom they do business. A reduction in suppliers from thousands to hundreds will allow the companies to focus only on the strong and proven suppliers. This same study concluded supply-chain professionals will also begin to think and speak as management of the companies think and speak. Likewise, the CAPS study showed more globalizational strategies will be utilized to leverage company-wide capabilities in the future (Nelson, Moody, and Stegner 34-35).

Traditionally, purchasing departments are not involved in the strategy of the company; this can result in their programs exceeding cost guidelines. Industry leaders in strategic planning are developing strategies for each supplier or commodity. Such is the case with commodity councils. Purchasers are looking two and three years down the road in order to understand the timing and the technology capabilities of new products (Nelson, Moody, and Stegner 62). Additionally, the purchasing and supply management departments will become more integrated with the strategic plans for the



respective companies to maximize leverage and responsiveness (Nelson, Moody, and Stegner 36).

In the 1990s, IBM had a “near death” experience. In the first quarter of 1993, IBM’s revenues had declined seven percent; the gross profit margin had fallen more than ten points from 50% to 39.5%—the loss before taxes was \$400 million. Just the year before, IBM had a pre-tax profit of close to \$1 billion in the first quarter. April’s profit in 1993 decreased again by another \$400 million, leaving IBM with an \$800 million loss within the first four months of the year (Gerstner 53). Within five years after the downfall, IBM had transformed its purchasing operations and created a savings of \$12 billion due to centralized purchasing, commodity councils, and e-procurement (Blair 1). IBM transformed itself from a high-tech giant into a flexible, rapid multi-product supplier (Nelson, Moody, and Stegner 199). Before IBM started this transformation, it was doing business with over 200,000 suppliers and was heavily decentralized with over 150 separate organizations (Blair 1). Every division, location, and plant had its own business structure—purchasing became an administrative functional nightmare. There was end-user dissatisfaction, a tactical instead of strategic focus, a paper-intensive process and “a patchwork of legacy systems” technology (Nelson, Moody, and Stegner 69).

IBM recognized Procurement as a key part of the overall corporate transformation which led to the decision to centralize purchasing. The first step was to find out where and to what extent they were spending their money. Next, the company had to transform into the centralized organization. The purchasing population at IBM was largely administrative: department members just trying to support the daily transactions; therefore, they were not strong in the area of strategic sourcing. The transformation from this administrative purchasing to strategic sourcing took about three years to accomplish (Nelson, Moody, and Stegner 69).

Thirty-one commodity councils were developed. The strategy for the councils was to “provide detailed insight into environment/market trends, spend outlook, SWOT analysis, commodity strategy, measurements, diversity supplier development, leveraged



spend percentage and opportunities” (“Best Practices: Strategic Transformation”). IBM looked at where the dollars were being spent and divided expenses into separate categories such as technical services, travel, software, hardware maintenance, memory, storage, and monitors. A commodity team, made up of procurement professionals and representatives from the end-user community, was formed to manage each area. The team was to decide on the global-sourcing strategy for their commodity, establish a smaller set of suppliers for that commodity, and execute contracts on behalf of IBM's total requirements (Blair 1).

After the transformation, IBM's relationship with suppliers changed dramatically; the number of suppliers decreased from over 200,000 to about 2,800 suppliers—a representation of about 80% of IBM's total spending. The smaller group of suppliers allowed IBM to establish closer relationships, resulting in a greater amount of information sharing (Blair 1). Electronic purchasing made up about 95% of purchasing as of 2003, whereas in the 1990s this percentage was less than 20%. The purchase order (PO) process time decreased from thirty days to less-than-one day, and end-user satisfaction was raised from 40% to 82% (“Best Practices: Strategic Transformation”).

Mr. Gene Richter, IBM's former Chief Procurement Officer, is known for leading supply organizations at Ford, Black and Decker, Hewlett-Packard, and IBM to major innovations in the purchasing- and supply-management fields. At IBM, he led the purchasing department to outsourcing and Internet-based sourcing, and he created centralized purchasing through commodity councils, saving “Big Blue” millions of dollars. More recently, Mr. Richter helped lead the Air Force to a commodity-council strategy as he presented the Air Force with his fundamentals of procurement for industry. Within his fundamentals, he presented the elements of a procurement strategy, e-procurement, and his procurement core values. Mr. Richter states that within an organization's procurement strategy a situational analysis must be conducted of the industry worldwide to include short- and long-term, the supplier's industry position, and technology directions. The organization must also analyze their own supplier base and create a sourcing plan that includes short- and long-term goals, long-term agreements, negotiating strategy, target percentages, and back-up plans.



Electronic procurement (e-procurement) benefits come not only through direct cost savings but also through improved efficiency, better productivity, faster processing, and greater visibility. Mr. Richter acknowledged this and put together some goals of e-procurement for industry. They were: significant financial advantage, enabling strategic global sourcing, a quicker response to marketplace changes, a paperless environment for purchasing, and an increased competitive advantage. He cautioned the Air Force to avoid the trap of focusing only on efficiency in creating e-procurement applications, for this only brings about 1-to-3% of the potential benefit. A company needs efficiency and effectiveness in e-procurement. Next, he presented his three procurement core values: understanding, integrity and teamwork, and initiative and urgency. He explained, understanding entails seeking a full understanding of your organization's and your suppliers' capabilities, wants, and needs. Integrity and teamwork ensures that both your organization and suppliers keep the letter of all agreements, build long-term relationships, and that a company never compromises its own best interests in pursuit of local interests. The last core value, initiative and urgency, ensures the company is never satisfied with anything less than a competitive advantage, is driven by a sense of urgency and is dedicated to the effectiveness of the procurement function. Mr. Richter closed by asserting a company must understand the goals and objectives for each commodity it is purchasing. This includes understanding the value of its internal customer and the requirements of the commodity, both short- and long-term (Richter).

Daimler/Chrysler also came up with a similar strategic sourcing method. Their vision is called The Extended Enterprise; it was designed around six basic elements. The first element is supplier relations. Chrysler's objective is to build long-term relationships with their suppliers based on mutual respect. Second are commodity strategies. Chrysler put cross-functional teams into place to research particular commodities and identify the top suppliers in that area. The third element is cost management. Chrysler's goal of cost management is to focus on total-system costs. The planners at Chrysler manage costs by managing target costs, material economics, and continuous cost improvement. The supply-chain concept is the fourth element of The Extended Enterprise. The concept behind this is not just buying, but scheduling,



ordering, and delivering the materials to the operators on the line. Fifth is supplier development. Chrysler provides specialists to work with suppliers on process or design, and they incorporate a rating that identifies weaknesses—for which they provide training and other assistance. Last is technology. A main principle behind The Extended Enterprise is that Chrysler should not burn up their own engineering resources if the suppliers already have the technology and expertise needed (Nelson, Moody, and Stegner 74-787).



Research Intention/Research Questions

The Air Force is under great pressure to improve practices while reducing its infrastructure costs to pay for new weapon systems and personnel-retention initiatives. New commodity-council and strategic-purchasing initiatives in the commercial sector have proven to increase leverage and better manage commodity purchases. Knowing this, and after doing a considerable amount of research in this area, the Air Force decided to implement IBM's commodity-council approach. Not only has IBM had great success with this approach to strategic purchasing, but the Air Force can be compared to IBM in terms of annual purchases, leadership, and business challenges such as being able to remain deployable, agile, versatile, and sustainable. The Air Force is in the process of determining which groups of commodities can be better provided (e.g. as faster-received, better-quality, less-expensive products) if a single entity establishes and implements a common strategy and contract vehicle(s) for all the items in a group. In the meantime, the first commodity council, AFITCC, has been set up and established at HQ SSG, Maxwell AFB—Gunter Annex to develop centralized strategies for information-technology commodities.

In this research, I seek to identify the experiences of the newly-formed AFITCC and analyze results and lessons learned. Specifically, how did the Air Force set up its first commodity council? What have been the results of this first commodity council—what lessons have been learned? And what should be done differently for future implementation; for example, what steps are still needed to reach the Air Force's goal of having all commodity councils fully utilized by 2008?

Methodology

Case study methodology will be used to accomplish this research. Case studies can be complex because they normally involve multiple sources of data, may include multiple cases within a study, and produce large amounts of data for analysis. The case study can be used to build upon theory, explain a situation, explore, or describe an object or phenomenon. The case study has advantages as a research method in that it



is applicable to real-life and contemporary situations. Steps in a case study include defining the research questions, selecting the case(s), collecting the data, evaluating and analyzing the data, and presenting the findings (Soy).

This research seeks to answer questions such as how the Air Force is currently implementing the commodity-council concept, and what have been the results and lessons learned thus far. The concept of commodity councils is contemporary, both in industry and especially in the Air Force; likewise, it is applicable to real-life situations. The first commodity council in the Air Force, the AFITCC, will be my case for analysis. The collection of data will be through a comprehensive literature research and a brief teleconference with AFITCC personnel stationed at HQ SSG, MAFB—Gunter Annex, Alabama.

Analysis

Although the Air Force has consolidated some requirements over the years, the Air Force mainly relies upon local strategy and execution to fulfill requirements. This process does not leverage overall Air Force spending and results in decentralized sourcing strategies, making it likely to increase the overall cost the Air Force must pay for goods and services. The decentralized approach also does not allow the Air Force to influence suppliers (and therefore improve customer service and responsiveness) as much as centralized sourcing would (Hansen 1). Because of this, the Air Force developed strategic sourcing goals and objectives. The ultimate goal of the Air Force is to leverage its multi-billion dollar purchasing power, while improving customer support, reducing the purchase cost of items, increasing the quality of goods and services, and accelerating delivery responsiveness.

There were many reasons the Air Force decided it was time for a change. First, it saw the success of commercial industry. According to the 10 October 2002 issue of *Purchasing Magazine*, “volume leverage” was the second most popular strategy for purchasing cost reduction, with twelve percent as the average purchase cost reduction goal for manufacturing firms. It was reported in 1997 that 20% of Fortune 500 firms participated in consortiums, which resulted in 13.4% savings according to CAPS



Research (Nelson, Moody, and Stegner 34). Second, the Air Force acknowledged the fact that every year it tries to do more with less. For example, when development began on the F-22, the Air Force intended to purchase 648 aircraft; now the number is down to 330. Likewise, at the beginning of 2000, the maintenance backlog for military departments was \$1.2 billion, and the recapitalization rate for military facilities is 192 years as of 2003 (Bowman, "Contract Strategy Board"). Third, it saw it was not optimizing its multi-billion dollar buying power. For instance, the Air Force currently has about 450 contracts in place for maintenance on miscellaneous buildings, about 443 contracts in place for RDTE, about 354 contracts for maintenance on business buildings, and about 352 contracts for office furniture. This is due to the decentralization of Air Force purchasing, but cost and time savings could be achieved through more centralized purchasing activities. In industry, profit equals revenues minus expenses. Similarly, in the Air Force, enhanced war-fighting capabilities equal available resources minus costs. Government innovation directly affects its customer. So, if the Air Force leverages its "buying power," it will directly enhance the war-fighters' needs (Bowman, "Procurement Transformation").

In 2002, the United States Air Force Deputy Assistance Secretary, Contracting (SAF/AQC) launched a study with KPMG Consulting to develop a strategy to transform the acquisition community of the Air Force. KPMG was to work with the Air Force Contracting's Procurement Transformation Strategy Integrated Product Team (IPT) in order to accomplish this mission. The purpose of the study was to define a "current state," the envisioned "end-state," a description of potential actions to achieve this end-state, and a phased transformation-implementation strategy. The vision of SAF/AQC is for the Air Force contracting community to become "Mission-focused, multiple-skilled business professionals following radically re-engineered processes leveraged by technology to mirror world-class businesses" (KPMG 1-3). The goal is to have improved communications up and down the chain and improved "cross-feeding" of innovative strategies among contracting professionals. This will allow the contracting community to make faster and more effective decisions, thereby fulfilling customer needs with better quality and timeliness (KPMG, 3).



The first step proposed in the KPMG study was to define a common, clear and understandable framework. The team came up with three distinct parts of the procurement management system: the procurement cycle, procurement pillars, and the procurement-management cycle. The procurement cycle is a continuous cycle that includes sourcing, ordering, and analysis. In addition, there are four pillars that support the procurement mission. They are policy, process, personnel, and technology. Finally, the procurement-management cycle is a series of coordinated management activities underlying the whole structure. These activities include customer management, operations management, resource management, performance management, and integration management. By analyzing all these elements, the Air Force was able to evaluate the current state assessment and make recommendations for the future (KPMG 3-5).

This study found the Air Force contracting community was lacking customer satisfaction, education, and communication, along with a strategic approach to resource management and performance measurements. In addition, because there is not one consistently supported within the contracting community, an integrated strategic approach to change must be established to achieve the Air Force's vision. Additional findings uncovered during the current state assessment were, but not limited to: a policy in transition from compliance-oriented to one of guiding principles, a focus on policy outcomes, a process of limited scope, underdeveloped performance measurements, a need to address recruitment, education, and culture, a limited scope of future needs, and non-integrated systems within the community (KPMG 6-9).

The envisioned end-state that the team proposed provided a vision for each of the management theme areas. The following are the visions for each area:

The vision for customer management is for Air Force procurement to fully understand the customers and their requirements in order to proactively attain the customer's business and loyalty. The vision for operations management is to achieve focused internal processes that contribute to customer satisfaction in the most effective and efficient manner possible. The resource management vision is to shape the Air



Force procurement workforce to be customer-focused business advisers empowered and prepared to apply sound business judgment in the execution of their responsibilities and equipped with the required knowledge, skills, and abilities necessary to excel in an environment of rapid change. The performance management vision is to provide Air Force procurement practitioners with the ability to gauge operational efficiency, personnel performance, and customer satisfaction. And finally, the integration management vision is defined as the integrated pursuit of change in support of the overall procurement transformation vision—across the procurement pillars (Policy, Processes, People, and Technology) and all management areas (Customer, Operations, Resource, Performance, and Integration Management) (KPMG 9-10).

Next, the IPT developed a Course of Action for deliberation, where the action plans presented were narrowed down to twenty-five, which in turn were combined into eight specific plans to be scheduled into the procurement transformation strategy. See the following illustration, Figure 1, for the elements of the strategy (KPMG 9-12).

Elements of PT Strategy



Figure 1: From: Executive Summary Procurement Transformation Strategy



The Procurement Transformation Implementation Strategy consisted of four phases: initiate, assess and respond, execute and revise, and sustain and improve. During the initiate phase SAF/AQC must establish the structure that will oversee and implement the transformation, establish a communication plan for stakeholders, create a funding strategy and budget, and establish an integration-management program. During the assess-and-respond phase, the team must appraise the current and potential customer base and develop a Customer Communications Plan that will inform the customers of Air Force capabilities, assess current operations, develop process improvements, assess current personnel, and develop workforce-shaping responses. In the execute-and-revise phase, the Air Force should start executing the proposed action plans. The various management disciplines of the Procurement Management Cycle are initiated as part of the transformation process. Specific actions in this phase include customer, operations, resource, and performance management. Finally, in the sustain-and-improve phase, the improvement is the ongoing task; in addition, Knowledge Management technology should be introduced into the process at this point (KPMG 14-25).

At the end of the study, KPMG recommended the Air Force conduct a test case with a selected commodity or service relevant to the entire Air Force. Furthermore, the test case should require its own Strategic-Sourcing Plan, Service-Delivery Plan, Customer-Communications Plan, and Metrics-Development Plan. SAF/AQC would be responsible for selecting the test case, and the test itself should not take longer than six months (KPMG 27).

Procurement transformation in the Air Force is a necessity in order to support the demands of an ever changing Air Force. Secretary of Defense Donald H. Rumsfeld once said:

The Department's leadership recognizes that continuing 'business as usual' within the Department is not a viable option given the new strategic era and the internal and external challenges facing the U.S. military. Without change, the current defense program will only become more expensive to maintain over time,



and it will forfeit many of the opportunities available to the United States today. Without transformation, the U.S. military will not be prepared to meet emerging challenges (Bowman, “Compelling Need”).

Procurement transformation will impact each mission as it saves time and money, and increases preparedness. As stated earlier, the Air Force decided to implement IBM’s commodity-council strategy in order to transform procurement practices. Each commodity council in the Air Force will have cross-functional representation and will utilize a standardized process (Hansen 2). See the diagram below (Figure 2) for the process. Each step in the process will have a list of deliverables due based on the tasks to be completed in each step.

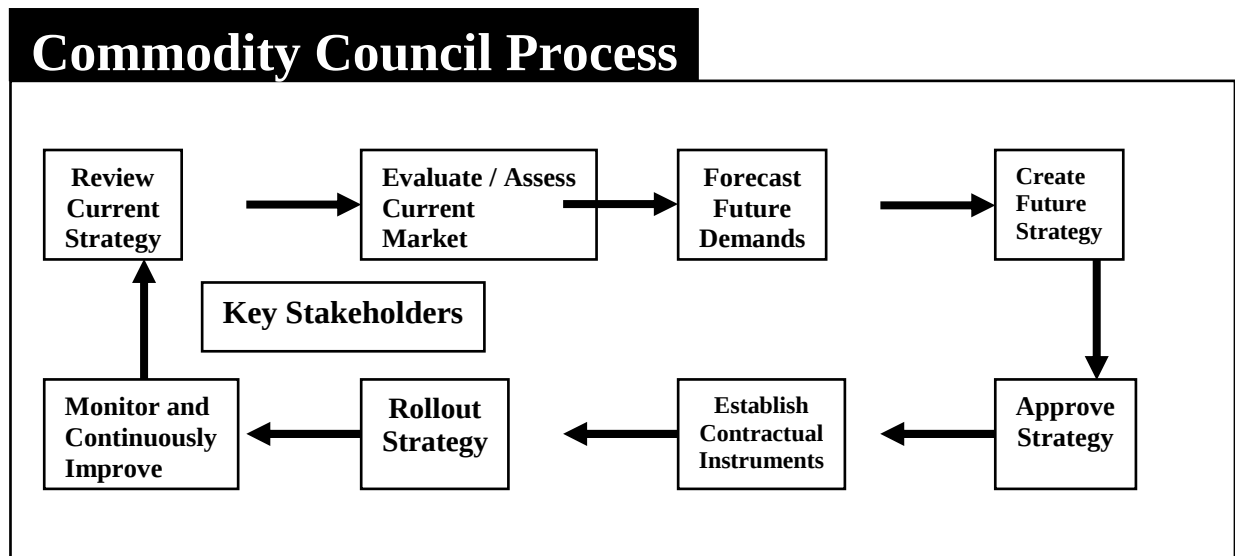


Figure 2 from: www.safag.hq.af.mil/contracting/procurementtransformation/ccprocess.html

Once a commodity council is established, the first step in the process is to review the current strategy. This involves developing an understanding of the current expenditure patterns, relevant policies, statutory requirements, and the existing procurement processes. The members of the council should then identify opportunities for improvements to the existing strategy and the quality of the commodity. Activities during this step include conducting a spend analysis, identifying stakeholders, documenting current metrics being tracked, holding review sessions with users and suppliers to begin communication, and defining leverage opportunities (Reese).



The second step in the process is to evaluate and assess the current market for the council's particular commodity group. Then, since many available resources are typically unique to the many commodity groupings, the commodity council must decide on a data source(s) to utilize throughout all stages of analysis. Additionally, the commodity council must continually analyze the market place to ensure its future strategy stays on track with the changing market conditions. During this step, the council must also analyze the market for emerging or new suppliers and/or commodities in order to take full advantage of the potential benefits derived from these new additions to the market. Other tasks during the second step include requesting information from leading suppliers about issues critical to the industry, analyzing various suppliers' capacity and capabilities, determining the availability of commodities, and developing the key cost factors in the market (Reese).

In the third step, forecasting future demands, the commodity council decides on a planning horizon, or number of planning years, for the commodity. The planning horizon will vary with different groups of commodities as technology changes at different rates in various industries. Also during this step, the commodity council will collect unconstrained future requirements for the commodity group from customers, develop customer-approved demand forecasts, evaluate demand forecasts against the key cost drivers, and analyze the projected funding against the demand forecasts. The council must be able to reduce the cost impact and negotiate tradeoffs and standardization based on cost considerations (Reese).

The fourth step for the council is to create future strategy based on the forecasted requirements and the opportunities identified for performance improvement and savings. For instance, strategy must be developed for raising the current performance standards of Air Force procurement to the level required to meet the goals of the commodity council. Therefore, during step four the commodity council must develop the goals they have for the commodity grouping and prioritize them by a rank ordering, weighted ranking, or balanced scorecard. The council must identify the gap between the results of any current strategies and the new commodity council goals; then, they must determine what should be accomplished in order to meet the new goals.



Additionally, the council must estimate the number of contracts to be used and compose an initial list of suppliers for those contracts. To conclude step four, the council must identify threats and fluctuations in the supply chain, identify ways to mitigate these risks, and develop the Commodity Acquisition Management Plan (CAMP). The CAMP shall include all required elements of a written acquisition plan in accordance with FAR 7.105. (Reese).

Step five, approve strategy, is fairly straight-forward. Under this step, the council is responsible for approving the CAMP, allocating the workload to establish required new contracts, and communicating workload responsibilities. Next, step six provides the establishment of contract instruments. This step targets the goal of leveraging the purchase volume and, therefore, reducing the purchase cost of the commodity. In this step, the council will need to issue requests for proposals, analyze the proposals, negotiate with suppliers, select suppliers, and award the contracts (Reese).

Strategy roll out, step seven, is the process by which commodity councils communicate the agreed-upon strategy described in the CAMP. This is the step where the council will improve customer support, increase utilization of socio-economic concerns, and achieve small business goals. The council will communicate strategy to stakeholders by conducting “kick-off” meetings. They will also conduct training, education and transition from previous suppliers to the establishment of new ones. Finally, the council will execute the new strategy and contracts and verify implementation (Reese).

The last step in the commodity-council process is to monitor and continuously improve. After execution of the commodity strategy (step seven), the council will gather feedback from stakeholders, suppliers, and industry to determine any adjustments necessary to better achieve the commodity goals. The council will analyze their strategy performance and any market changes. This may require changing the operating budget to reflect optimization. Finally, they will reevaluate and loop back to start the cycle/process again (Reese).



Each commodity council in the Air Force will be responsible for gathering market intelligence, developing a written sourcing strategy, and selecting suppliers based on the criteria of the strategy. Although the council is responsible for the overall purchasing strategy of the commodity, the actual execution will be at a decentralized level. This will allow the flexibility of decentralized execution and alleviation of risk, but will maximize the benefits of centralized management. The council has planned the decentralized execution to be accomplished through e-procurement. The chair, or director of the commodity council will be the individual with the most intimate knowledge of that particular commodity group. All the cross-functional members of the council will be experts in their specialty as well as experts in the commodity (Hansen 2).

While commodity councils are to provide an Air Force-wide strategy for the purchasing of a specific commodity, they are also responsible for creating and maintaining supplier relationships, integrating suppliers, driving commonality and standardization of requirements, insuring volume leverage, reducing costs, developing guidelines, strategies, and scorecards, and determining what level of effort should be decentralized. Strategies developed by the council should also include the number of suppliers and amount awarded to each supplier, a recommendation of suppliers, development plans, a methodology of supplier relationships, the contract type and length, and plans for socio-economic programs. The strategy should be communicated Air Force-wide, executed at the decentralized level, and enforced centrally (Hansen 2-4).

There are many benefits to implementing the commodity-council practice in the Air Force. First, the practice creates an increased focus on the centralization of sourcing strategy—therefore better leveraging Air Force spending. Second, commodity councils lead to open communications between the customer and contracting units because experts from the various functional areas are now involved in formulating the purchasing strategy. Third, “two heads are always better than one.” This age-old idiom is especially true with problem solving as the team working together as one unit clearly expedites the process. Finally, there is a reduction in duplication of effort and an increase of sourcing expertise within the process. Overall, commodity councils have



been proven in industry as the best way to decrease unit costs of purchasing, decrease lead times, and increase purchasing flexibility (Hansen 3-4).

Headquarters Standard Systems Group (HQ SSG), Maxwell Air Force Base (AFB)—Gunter Annex, Alabama, was tasked by SAF/AQC to set up the pilot commodity council for the Air Force, the Air Force Information Technology Commodity Council (AFITCC). The director of the council explained that Headquarters SSG was selected by the Air Force Chief Information Officer (CIO) and the Air Force's Deputy Assistant Secretary (Contracting) to head the newly formed AFITCC because "the IT, integration, standardization, and enterprise-wide mission support for the Air Force are found here at SSG" ("News Release"). The AFITCC was developed to centralized strategies for Information Technology (IT) commodities to include formulating Air Force-wide buying, acquisition, and life-cycle support strategies to fill IT requirements (AFITCC homepage). The AFITCC is made up of eight individuals from HQ SSG, including the director, deputy director, a project manager, a contracting officer, and a legal advisor. In addition, six members from Air Staff are present, and each Air Force Major Command (MAJCOM) has a representative on the council. Members of the council are experts in information technology and in their functional areas.

The Air Force does not currently leverage its overall spending in any commodity category to include IT. The AFITCC will better leverage Air Force spending in IT and reduce the unit cost for goods and services. Key objectives of the AFITCC include: fulfilling user needs for IT commodities, developing strategies aligned with the CIO vision, reducing acquisition costs, eliminating duplication of effort, establishing socio-economic strategy, and ensuring alignment between Air force policy and commodity strategies. The \$4 billion IT commodity market includes desktops, laptops, servers, peripherals, hardware and software, video conferencing, wireless connections, and services. Not only is IT a colossal market, but technology is rapidly changing at all times; therefore, there is a narrow window of discount opportunity: all the more reason to implement a commodity council and centralize the purchasing ("IT Commodity Management: The Road Ahead Slides").



Congress considers IT to be one group consisting of everything from radars and communication satellites to management systems. The DoD has decided to break this category in two starting in 2005: war-fighting and business-related IT (Tiboni). The AFITCC is to create commodity strategies for commercial IT products and services that are not normally part of a weapon system. The commercial IT market consists of categories such as hardware, software, IT services, and telecom; and in turn, each of these areas have subcategories. The CAMP for the AFITCC is divided into two parts. Part one is the overarching management plan that consists of areas such as: background, market characteristics, strategic metrics, resources and funding, strategy development process, objectives, definitions, organization, risk, and responsibilities. Part two contains an annex for each product area called spirals. For instance, the first spiral was for desktops, laptops, and servers. It was from spiral one that the AFITCC made its first commodity-council purchase. Spiral two is I/O peripherals, which includes printers, copiers, scanners, faxes, digital imaging, and multi-functional devices (Digital Imaging and Printing or DIP) (Priest).

On 8 April 2003, the AF-CIO EXCOM ITCC Orientation was held with the AFITCC. Stakeholder representatives from each MAJCOM and Functional were identified on 18 May 2003, and the AFITCC orientation for them was held on 15 June 2003. On 21 July, the CAMP was stood up (Priest), and on 15 August the CAMP, Desktop/Laptop Spiral one was approved. The AFITCC was rolled out at the Air Force Information Technology Conference (AFITC) in Montgomery, AL on 20 August 2003 ("Procurement Transformation: 'The Road Ahead' slides"). The first contract in accordance with the AFITCC CAMP was awarded in August, with a second buy following in December of 2003. The final CAMP was signed in January 2004. According to council members, buys in accordance with the CAMP will be conducted quarterly; the next one is scheduled for 30 March 2004. Currently, the council is working on a new strategy for DIP which is expected to be completed by June (Priest).

Because of its responsibility, the AFITCC must answer questions such as: What kind of IT do our customers need to get the job done? How much should we spend? Will the IT we decide on be compatible with the hardware and software we already



own? Where do we spend our IT dollars currently? Who are the IT market leaders? And can the small and/or new businesses in the IT field meet our needs? In order to answer a few of these questions, the council first studied a spend analysis for personal computers (PCs) and servers since spiral one's inclusion in the CAMP. They found that between the years of 2000 and 2003, the Air Force spent about 59% of their IT dollars in this area on desktops, 21% on laptops, and 20% on servers. However, they did notice a shift from desktops to laptops; they expect this shift to accelerate starting in 2004. Other trends they noticed in the PC and server arena were that purchases were made to replace aging equipment. In addition, there were normally three-to-four peak buying periods for PCs and servers with the largest at end of year (EOY) (see Figure 3 below for graphs of fiscal year (FY) 2001 and 2002 spending). Along the same lines, eighty percent of desktops and laptops purchased were made by Dell, Gateway, or MPC; an average of three-year warranties were purchased for PCs, and most purchases were thru AFWAY or the Commercial Information Technology Product Area Directorate (CIT-PAD). Interestingly, these units were reliant upon fallout and O&M funding (Gaylord).

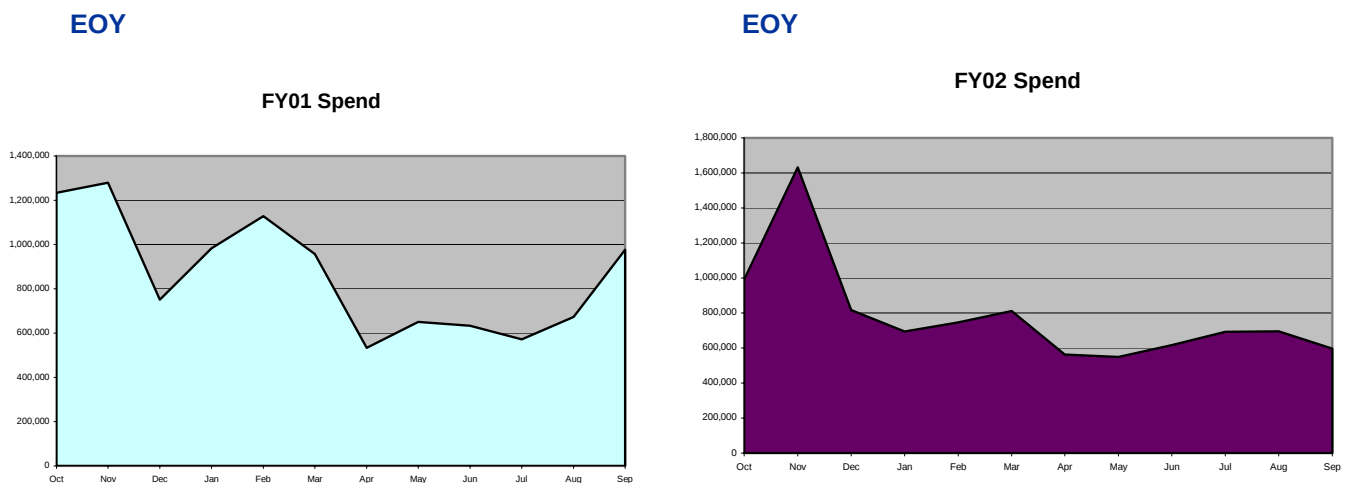


Figure 3: FY 01 and 02 IT Spend Analysis From: Navy CIO slides Presented by Lt Col Thomas Gaylord

When conducting a market assessment, the council found the government provides less than ten percent of the United States' market for PCs. They also



discovered Dell, HP, Gateway, and IBM dominate the PC market, while MPC focuses on the government and large businesses. Dell, HP, and IBM have 62% of the server market share. The council also concluded that Dell, Gateway, and MPC are direct suppliers, while HP is direct and through resellers, and IBM is through resellers alone. The council also looked at how rapidly the technology was changing to analyze how often IT purchases would have to be replaced. It was found that technology doubles about every eighteen months. For instance, in 2005 the PC will be 8GHz with one billion bytes of disk. Finally, they found that Intel-based IA-32 servers represent 92% of all industry, while Windows is the dominant operating system, but Linux is growing (Gaylord).

The Air Force's major command agreed to three configurations for the computers, one for desktops and two for laptops. By agreeing to these configurations, the Air Force could implement standardization and lower purchasing and operational costs. Such an agreement also helped ensure the council was purchasing computers that were meant to last for three to four years and that met the architectural targets. The first purchase made by the AFITCC was made for the Air Force Materiel Command (AFMC) in August 2003. After reviewing proposals from Gateway, CDW-G, MPC, and GTSI, Dell was selected as the awardee for an order of approximately \$7.5 million. AFMC was to purchase 12,500 PCs instead of the 10,000 originally planned (Temin). The first shot at the new commodity-council concept worked so well the Air Force was able to save three MAJCOMs more than \$4 million in purchases in December 2003. The Air Combat Command (ACC), Air Education and Training Command (AETC), and the United States Air Force in Europe (USAFE) now have 14,863 desktops and 763 laptops collectively. ACC was able to increase their purchase by 778 computers, which would have cost them \$1 million without the commodity council. Likewise, AETC was able to save about \$3 million on the purchase of 8,969 desktops and 235 laptops ("Council saves").

The AFITCC is also authorized by SAF/AQC to execute Air Force-wide pricing agreements. These pricing agreements are negotiated to take advantage of the Air Force's buying power, and suppliers are expected to provide the "most favorable



pricing” to the Air Force. Suppliers that can satisfy the Air Force’s IT requirements while providing value are then awarded the pricing agreements. While negotiating, the AFITCC looks at the supplier’s products and services, pricing structure, training and support requirements, exchange and return policy, payment terms, financial stability, and its ability to satisfy all Air Force business requirements. The Council also works with the Air Force Small Business Administration Office (SAF/SB) to meet its small business goals and to ensure the strategies incorporate small business contractors as vital suppliers of IT products and services. The small business strategy approved for the CAMP involves two parts. The first part is local purchases. A small business goal of 6% of annual desktop and notebook computer spending has been reserved for local small businesses, including original equipment manufacturers (OEMs) and value added resellers (VARs). Each MAJCOMs, DRUs, or FOAs is required to develop and implement a strategy to meet this goal. The second part is cooperative-buy purchases. An additional 6% of the quarterly buys will be awarded to small business. Small business metrics will be tracked, and the goal will be adjusted annually if necessary. The commodity council looks for suppliers that can provide quality, focus, savings, innovation and technology (AFITCC homepage).

AFWay is the Air Force’s web-based system for purchasing Information Technology. The system combines e-Business and e-Commerce processes, guiding the user through requirement approvals, purchases, and asset tracking. AFWay has been mandated by the AF-CIO for the purchase of desktop and laptop computers. It places IT products and more than thirty vendors at the fingertips of every Air Force member. AFWay is designed to reduce total cost of ownership, better coordinate IT purchasing power with greater-volume discounts, meet congressional mandates such as the Clinger-Cohen act, improve tracking throughout the process, and maximize the use of the Government Purchase Card (GPC) for IT purchasing. AFWay is the e-Commerce solution for the AFITCC and will provide the customer with pre-negotiated contracts, pricing below both manufacturers’ retail and GSA pricing, the ability to fulfill all IT requirements at one site, the ability to place bulk buys, and access to customer support (AFITCC homepage). In short, AFWay will reduce customer workload, provide



access to over 150,000 IT products and services, and enable the Air Force to continue to coordinate IT policy in the future.



Results/Discussions

There have been many lessons learned and constraints realized from the AFITCC. The Air Force realized it does not drive the market; rather, it is a market follower. Therefore, the Air Force needs to be reactive to frequent mergers, takeovers, and poor performance levels. Commodity councils must also be astute in aligning Air Force strategy with Small Business capability to make sure the small business goals are being met, and small businesses are not being left out of the strategy plan. Another lesson learned is that deviation from commercial practices drive up costs. Additionally, tech-refresh strategies must be able to accommodate technological advancements. Buyers should be prepared to leverage various opportunities for significant discounts to include bulk buying; continuous competition is needed to achieve best value. Some constraints realized throughout the process of implementing the AFITCC were the limited flexibility of socio-economic goals, the limited data available for analyzing inventory, spend data, and reliability, decentralized funding for centralized purchasing, and the fact that some public laws drive deviations away from commercial practices, therefore increasing costs (“IT Commodity Management: The Road Ahead slides”).

Results of the AFITCC have been nothing shy of success. Cost savings have been significant, and satisfaction among the MAJCOMs and with SAF/AQC and the AF-CIO has been substantial. In the past, the procurement process was incremental; the contacts were tactical; the focus was on acquiring parts; there were manual processes and governance; and procurement was constrained by rules. After the implementation of commodity councils, procurement consists of strategic sourcing; the focus is on supplier and vendor relationships; e-Business leverages procurement; and procurement is based off of FAR Part One flexibility. The below table (Figure 4) shows the differences in process and governance in procurement activities before and after the AFITCC.



	Pre-AFITCC	AFITCC
User Participation	- Limited involvement with strategy development	- MAJCOM and Air Staff membership in AFITCC
Strategy and Execution	- Decentralized strategy (each base/MAJCOM devises their own) - One group devises strategy and execution (Self-service strategy, but all located at SSG)	- Centralized AF strategy - Strategy group and execution group are separate entities
Compliance	- No requirement to use strategy or contracts	-AF-CIO and SAF/AQC policy direction to use vehicles and comply with standard
Order Execution	- Decentralized ordering	- SAME
Data/Info Usage	- No AF spend analysis	- Spend, market, and inventory Analysis
Strategy Approval	- SSG or ESC (Electronic Systems Command)	- Shared CSO authority (AF-CIO and SAF/AQC)
Contract Approval with Execution	- Unclear and varied	- Streamlined and consistent with execution strategy approval process

Figure 4: A look at How the Process is Different Now From: HQ SSG AFITCC webpage

The Purchasing Machine by Dave Nelson, Patricia Moody, and Jonathan Stegner identifies twenty best practices for the purchasing profession. Best practice number six is training. Training is recognized as being exemplary in commercial leaders such as John Deere, Honda, Motorola, and SmithKline Beecham. Some of the best practices of these companies include study groups, technical courses, sharing of training costs by customers, and benchmarking visits. Internal training includes a variety of basic courses, but also includes quality methods and “human factors” training in communication and conducting meetings. Some companies make the training available to their suppliers also (Nelson, Moody, and Stegner 55). The Air Force has recognized



these initiatives and has plans to invest time for the training of commodity council and procurement personnel. The Air Force workforce will need to have a strategic skill set and become e-Business experts. The workforce will also become supplier-relationship managers. Skill sets required for procurement professionals in the future should be analyzed, and special emphasis should be placed on identifying those skills required to enable team members to be more market savvy and e-Procurement minded.

A list of core competencies for officers, enlisted service members and civilians should be made available in the future for all procurement personnel, and career paths should be developed for each.

The Air Force is currently analyzing the “as is” and “to be” core competencies of procurement personnel and recommending changes in terms of training, education, and skill sets. Training is crucial, as skill set gaps can really damage the organization due to individual buyers controlling 70-90% of commodity costs.

The Air Force Logistics Management Agency (AFLMA) identified other areas within the Air Force potentially in need of commodity councils. These included systems engineering services, ADP and telecommunications services, base operations support services, medical equipment, ball bearings, environmental services, logistic support services, food services, and industrial: trucks, tractors, and trailers (Bowman, “Contract Strategy Board”).



Conclusion

The commodity-council strategy and purchasing initiatives in the commercial sector have proven to increase leverage and better manage commodity purchases. The councils help to reduce duplication of effort, improve customer support, and minimize supply chain costs through integration and collaboration. The first commodity council in the Air Force, AFITCC, has been established to develop centralized strategies for information-technology commodities. The results of implementation have been remarkable. Millions of dollars in cost have been saved. AFMC was able to procure 12,500 PCs instead of the 10,000 originally planned, and ACC, AETC, and USAFE saved over \$4 million in purchases in December 2003. Although this is a new concept and there are still lessons to be learned, I think the Air Force would agree the commodity-council approach is one worth pursuing.



Works Cited

- Air Force Information Technology Commodity Council Home Page. 12 June 2003. 25 February 2004. <<https://webl.ssg.gunter.af.mil/afitcc/>>
- "Best Practices: Strategic Transformation." Slideshow: 5 December 2003. Copyright IBM 2003.
- Blair, Raymond. "How IBM Generated \$12 B in Competitive Advantage over Five Years by Harnessing the Power of e-Procurement." October 2001.
- Bowman, Dan. "Contract Strategy Board: The Compelling Need." Slideshow: 3 December 2003.
- Bowman, Dan. "Procurement Transformation 'The Road Ahead.'" Slideshow: 25 June 2003.
- "Buyers' cost reduction goals average 12% in '02." Purchasing. October 10, 2002.
- "Council saves major commands money." Air Force Link. 12/09/2003. 25 February 2004. <<http://www.af.mil/stories/story.asp?storyID=123006166l>>
- Gaylord, Thomas, Lt Col. "Navy CIO." Slideshow: 15 January 2004.
- Gerstner, Louis V. Who Says Elephants Can't Dance? New York: HarperBusiness, 2002.
- Hansen, Mark, Captain. "Commodity Council Concept of Operations." 30 October 2002.
- "IT Commodity Management: The Road Ahead." Slideshow.
- KMPG Consulting. Executive Summary Procurement Transformation Strategy. 23 April 2002.
- March 12, 2004.
<<http://www.manufacturing.net/pur/article/CA250881?stt=001&pubdate=10%2F10%2F02>>
- Nelson, Dave, Patricia Moody, and Jonathan Stegner. The Purchasing Machine. New York: The Free Press, 2001.
- "News Release United States Air Force." Release No. 03-05-21. Release date: May 21, 2003.
- Priest, Dorothy. Personal Interview. 16 March 2004.



Reese, Mark, Captain. "The Commodity Council Process." Slideshow: January 2003.

Richter, Gene. "Procurement: Fundamentals and Trends." Slideshow.

September 8, 2003. 25 February 2004.

<<http://www.fcw.com/fcw/articles/2003/0908/pol-af-09-08-03.asp>>

Soy, Susan. "The Case Study as a Research Method." 11/11/98. 15 March 2004.

<<http://www.gslis.utexas.edu/~ssoy/usesusers/131d1b.htm>>

Temin, Thomas. "Air Force council saves on first PC commodity buy." Government Computer News. 08/27/2003. 25 February 2004.

<http://www.gcn.com/vol1_no1/daily-updates/23299-1.html>

Tiboni, Frank. "Air Force forms IT-buying council." Federal Computer Weekly.



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