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MBA PROFESSIONAL REPORT

The Impact of Commodity Councils on the Internal Structures of Purchasing Organizations in the United States Air Force

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December 2004

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To better support the warfighter, the Department of Defense is emulating industry's Best Commercial Practices (BCP). Identified as a BCP, strategic sourcing is an integral part of the procurement transformation, aimed at buying products cheaper and faster. Success in the commercial industry has shown that strategic sourcing is a powerful tool that can significantly cut costs and improve customer responsiveness. The Air Force has taken initial steps to implement strategic sourcing into their purchasing organizations through commodity councils. This research uses the case study method to identify patterns and trends experienced by commercial companies in their implementation of strategic sourcing. In particular, it focuses on 1) job description 2) training 3) manpower 4) realignment 5) procedures and 6) human aspect. Further analysis compares these "lessons learned" to current Air Force practices and discusses potential barriers and to what extent they can be adopted. Based on these findings, specific recommendations are made to better help the Air Force enable this transformation.

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THE IMPACT OF COMMODITY COUNCILS ON THE INTERNAL STRUCTURES OF PURCHASING ORGANIZATIONS IN THE UNITED STATES AIR FORCE

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Submitted in partial fulfillment of the requirements for the degree of

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THE IMPACT OF COMMODITY COUNCILS ON THE INTERNAL STRUCTURES OF PURCHASING ORGANIZATIONS IN THE UNITED STATES AIR FORCE

ABSTRACT

To better support the warfighter, the Department of Defense is emulating industry's Best Commercial Practices (BCP). Identified as a BCP, strategic sourcing is an integral part of the procurement transformation, aimed at buying products cheaper and faster. Success in the commercial industry has shown that strategic sourcing is a powerful tool that can significantly cut costs and improve customer responsiveness. The Air Force has taken initial steps to implement strategic sourcing into their purchasing organizations through commodity councils. This research uses the case study method to identify patterns and trends experienced by commercial companies in their implementation of strategic sourcing. In particular, it focuses on 1) job description 2) training 3) manpower 4) realignment 5) procedures and 6) human aspect. Further analysis compares these "lessons learned" to current Air Force practices and discusses potential barriers and to what extent they can be adopted. Based on these findings, specific recommendations are made to better help the Air Force enable this transformation.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

I. INTRODUCTION.....3
- A. BACKGROUND 3
- B. LITERATURE REVIEW 4
- C. PROBLEM STATEMENT/RESEARCH QUESTIONS 4
- D. METHODOLOGY 5
- E. RESULTS 6
- F. DISCUSSIONS.....6

II. LITERATURE REVIEW 7
- A. CHAPTER OVERVIEW 7
- B. STRATEGIC SOURCING 7
- C. THE COMMODITY COUNCIL.....10
- D. IBM.....12
- E. AIR FORCE INFORMATION TECHNOLOGY COMMODITY COUNCIL.....14
- F. CHAPTER SUMMARY.....21

III. METHODOLOGY 23
- A. CHAPTER OVERVIEW 23
- B. RESEARCH OBJECTIVES.....23
- C. RESEARCH DESIGN.....23
- D. METHODOLOGY 24
- E. DATA COLLECTION.....26
- F. RELIABILITY/VALIDITY.....27
- G. CHAPTER SUMMARY.....28

IV. RESULTS AND ANALYSIS 29
- A. CHAPTER OVERVIEW 29
- B. BACKGROUND ON FIRMS 29
- C. INTERVIEW RESPONSES 32
- D. CHAPTER SUMMARY.....44

V. DISCUSSION.....45
- A. CHAPTER OVERVIEW 45
- B. DISCUSSION OF RESULTS 45
  - 1. Job Description.....45
  - 2. Training 48
  - 3. Change in Manpower 50
  - 4. Change in Procedures.....51
  - 5. Company/Division Realignment.....52
  - 6. Human Aspect 53
- C. RECOMMENDATIONS FOR THE AIR FORCE 54

D. COMPARISON WITH RAND STUDY 57
E. LIMITATIONS/AREAS OF CONCERN.....59
F. FUTURE RESEARCH.....61

APPENDIX A. LETTERS OF ENDORSEMENT FROM SAF/AQC AND THE DEAN OF THE GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY, NAVAL POSTGRADUATESCHOOL 63

APPENDIX B. INTERVIEW QUESTIONS FOR INDUSTRY.....65

LIST OF REFERENCES.....67

INITIAL DISTRIBUTION LIST 71

LIST OF FIGURES

Figure 1. Traditional Purchasing Model (From: Harnessing Value in the Supply Chain-Strategic Sourcing in Action).....9
Figure 2. Strategic Sourcing Model (From: Harnessing Value in the Supply Chain-Strategic Sourcing in Action).....9
Figure 3. FY 01 and 02 IT Spend Analysis (From: Navy CIO slides Presented by Lt Col Thomas Gaylord) 17
Figure 4. A look at How the Process is Different Now (From: HQ SSG AFITCC webpage).....20
Figure 5. Comparison of Recognized Strategic Skills (From: Ausink, 61-64). 58

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LIST OF ABBREVIATIONS AND ACRONYMS

ACC	Air Combat Command
AETC	Air Education and Training Command
AFB	Air Force Base
AFIT	Air Force Institute of Technology
AFITC	Air Force Information Technology Conference
AFITCC	Air Force Information Technology Commodity Council
AFLMA	Air Force Logistics Management Agency
AFMC	Air Force Materiel Command
AFWay	Air Force Way
APDP	Acquisition Professional Development Program
APICS	American Production and Inventory Control Society
ASVAB	Armed Services Vocational Aptitude Battery
BCP	Best Commercial Practice
BPA	Blanket Purchase Agreement
CAMP	Commodity Acquisition Management Plan
CCAF	Community College of the Air Force
CDC	Career Development Course
CIO	Chief Information Officer
CITPAD	Commercial Information Technology Product Area Directorate
CPM	Certified Purchasing Manager
DAU	Defense Acquisition University
DIP	Digital Imaging and Printing
DoD	Department of Defense
EoY	End of Year
ESC	Electronic Systems Center
FAR	Federal Acquisition Regulation
FTE	Full Time Employee
GPC	Government Purchase Card
GS	Government Service

GSA	Government Service Administration
HQ SSG	Headquarters Standard Systems Group
IT	Information Technology
MAJCOM	Air Force Major Command
NAPM (now ISM)	National Association of Purchasing Management
O&M	Operations and Maintenance
OJT	On-the-job training
PAF	Project Air Force (RAND)
PC	Personal Computer
PDA	Personal Data Assistant
PO	Purchase Order
SAF/AQ	Air Force's Deputy Assistant Secretary (Acquisitions)
SAF/AQC	Air Force's Deputy Assistant Secretary (Contracting)
SAF/SB	Air Force Small Business Administration Office
SPO	Systems Program Office
SWOT	Strengths, Weakness, Opportunities, Threats
USAF	United States Air Force
USAFE	United States Air Force in Europe

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EXECUTIVE SUMMARY

To better support the warfighter, the Department of Defense is emulating industry's Best Commercial Practices (BCP). Identified as a BCP, strategic sourcing is an integral part of the procurement transformation, aimed at buying products cheaper and faster. Success in the commercial industry has shown that strategic sourcing is a powerful tool that can significantly leverage spend, reduce duplication of effort, minimize supply chain costs, and improve customer responsiveness. The Air Force currently spends about one-third of its annual budget on purchased goods and services. This offers a large target in which to seek cost savings. The Air Force has taken the initial steps to implement strategic sourcing into their purchasing organizations through commodity councils.

This research uses the cross-case synthesis method to identify patterns experienced by commercial companies in their implementation of strategic sourcing. Eight commercial companies were interviewed about its experience implementing their method of strategic sourcing. In particular, our study focused on 1) job description 2) training 3) manpower 4) realignment 5) procedures and 6) human aspect. Further analysis compares "lessons learned" from the interviews to current Air Force practices and discusses potential barriers and to what extent they can be adopted. Based on these findings, specific recommendations are made to better help the Air Force enable this transformation.

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I. INTRODUCTION

A. BACKGROUND

In an effort to better support the warfighter, the Department of Defense is being encouraged to adopt the Best Commercial Practices (BCP) of industry (Camm). One such recognized practice is strategic sourcing, "…is an organized and collaborative approach to leveraging targeted spend across locations with select suppliers that are best suited to create knowledge and value in the customer-supplier interface" (Engel). Many commercial firms have shifted to strategic sourcing and the cost savings have been very impressive. The two fundamental concepts of Strategic Sourcing are leveraged buying and a reduction in total supply chain costs.

The Air Force currently spends about one-third of its annual budget on purchased goods and services. However, at this time they do not benefit from volume discounts because the majority of the purchases are decentralized and only satisfy short-term organizational requirements. Because there is a great potential for savings (millions), the Air Force has adopted the strategic sourcing concept and has begun implementation of commodity councils. Commodity councils create purchasing strategies and establish centralized contracts for enterprise-wide requirements. By doing so, the commodity councils drive commonality and standardization and ensure the leveraging of purchasing volume. The key to this approach relies 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.

In this research, we analyze the experiences of commercial firms to identify trends and patterns private sector companies have experienced when implementing a commodity council or strategic sourcing structure within their organization. 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. This research seeks to identify patterns in successful private sector firms and assess their applicability to

commodity council activities within the Air Force. The remainder of this chapter provides an overview of each of the following chapters presented in this research project.

B. LITERATURE REVIEW

In today's competitive market place companies are looking for new and innovative ways to increase their bottom line without affecting operational efficiency. For most commercial companies, this has meant a shift from tactical to strategic purchasing. Tactical purchasing focuses on the individual steps in the procurement process, such as determining the need, specifying requirements, and selecting a contractor. On the other hand, strategic purchasing does not focus on the process, but rather the policy behind the process. Strategic sourcing involves the alignment of policies, processes, peoples and technologies in support of an overall procurement vision. Through improved strategic sourcing practices and methods of procurement, companies are changing the environment for both buyers and suppliers alike.

The United States Air Force plans to implement a "commodity council" structure within the near future. At this time the Air Force fulfills individual unit requirements through policies and procedures that are specific to the individual buying organization. Because the majority of purchasing actions are decentralized, the Air Force tends to pay higher prices for goods and services and reduces its ability to influence suppliers across the industry. Under the new system, an Air Force-wide strategy will be developed by the commodity council that focuses on the entire AF need for a particular commodity.

The first commodity council within the Air Force was the Air Force Information Technology Commodity Council (AFITCC). The results of implementation have been remarkable; millions of dollars have been saved and satisfaction among the various commands has been substantial. Successes, lessons and constraints learned from the AFITCC are further explored in Chapter II.

Strategic sourcing is the future of procurement. Existing research indicates that strategic sourcing has a number of benefits for organizations that implement it correctly. The potential benefits of properly implementing commodity councils within the Air Force can be substantial in increased leverage and reduced time and effort.

C. PROBLEM STATEMENT/RESEARCH QUESTIONS

With the Air Force implementing a commodity council structure in the near future, the Air Force needs to analyze how this will affect the various procurement organizations. We will identify trends and patterns private sector companies have experienced when implementing a commodity council or strategic sourcing structure within their organization. More importantly, we considered how these same trends may affect the Air Force as they implement a commodity council structure throughout their organization.

In this research, we seek to identify how Air Force procurement organizations may change in regards to the following: How may the organizational structure and design of the operational units change? What additional skill sets may be required of personnel? What training may be required to bridge the gap between skill sets? Are there any differences in procurement procedures following implementation? And what are likely to be the biggest challenges in making the implementation? Additionally, changes in regards to personnel issues will also be addressed: How will personnel react to the changes? And how best should the Air Force go about communicating the changes?

D. METHODOLOGY

This thesis effort was conducted using a combination of literature reviews and qualitative interview results. Eight commercial companies that have initiated various forms of strategic sourcing practices composed the basis of the research. The study uses the cross-case synthesis method of analysis to analyze the data gathered. Employing these techniques, the study outlines specific characteristics for the implementation of strategic sourcing and how it affects various procurement organizations and activities. These characteristics are then used to determine if the Air Force can follow a similar model for the implementation of commodity councils.

Each company was initially contacted to see if an expert in the purchasing department was available and willing to be interviewed about the experience of implementing their method of strategic sourcing. A total of eight companies were interviewed. The case study approach, as outlined by Yin (2003), was utilized to assess the reliability and validity of the qualitative data collected as well as to assist in the analysis of the data.

E. RESULTS

Brief backgrounds are given for each of the eight companies interviewed, followed by their responses to the interview questions. Patterns that emerged for each question are briefly explained with examples where applicable from individual firms. The companies interviewed came from different industries, and had different degrees to which they incorporated strategic sourcing into their organizations. Questions that had notable responses are incorporated into this chapter in addition to noting responses from some of the companies that differed from the opinions expressed by other experts interviewed.

F. DISCUSSIONS

A discussion of the interview results is summarized in the final chapter along with specific recommendations for action by the Air Force. Additionally, a RAND study entitled, Air Force Procurement Workforce Transformation Lessons From the Commercial Sector, is compared to our study in regards to findings and recommendations. This section also includes a discussion of the limitations of the research as well as recommendations for future research. Some of the limitations of this study included time, the difference between the implementation of commodity councils versus other strategic sourcing methods, and the use of third parties for interview transcriptions. In the future it is recommended that more research be done on the possibility of combining supply and purchasing, the effects of commodity councils on full and open competition, and to what extent DoD or even the Federal Government may want to implement commodity councils in the future.

II. LITERATURE REVIEW

A. CHAPTER OVERVIEW

This chapter serves as an overview of the existing commodity council and strategic sourcing research. It begins with a definition and summary of strategic sourcing focusing mainly on the concepts of commodity councils. Following is a real world example of where commodity councils have proven successful in industry with a discussion of IBM's use of the commodity council architecture. Finally, a discussion of the pilot commodity council in the United States Air Force, the Air Force Information Technology Commodity Council (AFITCC), concludes this chapter.

B. STRATEGIC SOURCING

In today's competitive market place companies are looking for new and innovative ways to increase their bottom line without affecting operational efficiency. For most of the commercial sector this has meant a shift from tactical to strategic purchasing. Tactical purchasing focuses on the individual steps in the procurement process, such as determining the need, specifying requirements, and selecting a contractor. On the other hand, strategic purchasing does not focus on the process, but rather the policy behind the process. Strategic sourcing involves the alignment of policies, processes, peoples and technologies in support of an overall procurement vision. Through improved strategic sourcing practices and methods of procurement, companies are changing the environment for both buyers and suppliers alike.

A company's ability to manage and integrate the flow of resources, funding, and information within and outside the organization is critical to its success in today's competing market. According to a study done by the Aberdeen Group (Aberdeen 2), "Sourcing… is the area of procurement that can yield the biggest cost savings in the least amount of time … the single greatest lever an organization can pull to control costs and improve performance." In light of this, many companies have implemented strategic sourcing and have revolutionized internal supply chain management. According to Emiko Banfield, Vice President of Shared Services at Southern California Edison and author of the book, Harnessing Value in the Supply Chain:

> Strategic Sourcing is the aligning of a company and its supply base with the ultimate purpose of minimizing the total cost across each link in the supply chain for purchased materials and services. Done properly, Strategic Sourcing breaks down the traditional barriers between users, buyers, and suppliers so the company achieves maximum value from its supply chain. (20).

Strategic sourcing focuses on establishing and managing procurement policies that allow for total cost reduction and improved buyer-supplier relationships. In particular, strategic sourcing is aimed at improving weak or inefficient procurement practices, such as: separate units independently conducting contract negotiations with the same supplier, deviations made from preferred supplier lists, purchasing done outside negotiated discount contracts, purchasing activities are spread through multiple company areas, neglecting price/quantity discounts, suppliers are not certified for quality, delivery performance, capacity, capability, or flexibility, and company personnel work with too many or too few sources (for the same product or service) (Tyndall 133).

Purchasing in bulk allows companies to take advantage of volume discounts, while at the same time streamlining procurement transactions. In addition, by decreasing the supplier base, companies are better able to establish a collaborative relationship with suppliers. This allows for better buying decisions for both parties, with mutual benefits. Besides total cost savings, strategic sourcing also adds value through: improved Quality, enhanced internal communication and collaboration, simpler business processes, optimal supplier utilization, innovation, new competencies, increased supplier diversity, improved teamwork, and more streamlined and effective procurement (Banfield 16).

In the shift to strategic sourcing, organizational roles and relationships must change across the entire supply chain. In the traditional model, the supply chain is linear and there is little interaction amongst the different players and almost no relationship between the buyer and seller (Figure 1) (Banfield 25). Because the buyer and seller are unable to align their interests, transactions often result in a win-lose outcome. On the other hand, the new strategic sourcing model is represented by a circle (Figure 2) (Banfield 26). In the circle, all the players are linked together on cross-functional teams. Because there is interaction amongst all the parties involved, interests are aligned and

opportunities for mutual benefit are realized. Although the participants in both the traditional and strategic models remain the same, their primary roles do not. The role of the business unit, procurement organization, and supplier are redefined to share the responsibility for providing value throughout the supply chain.

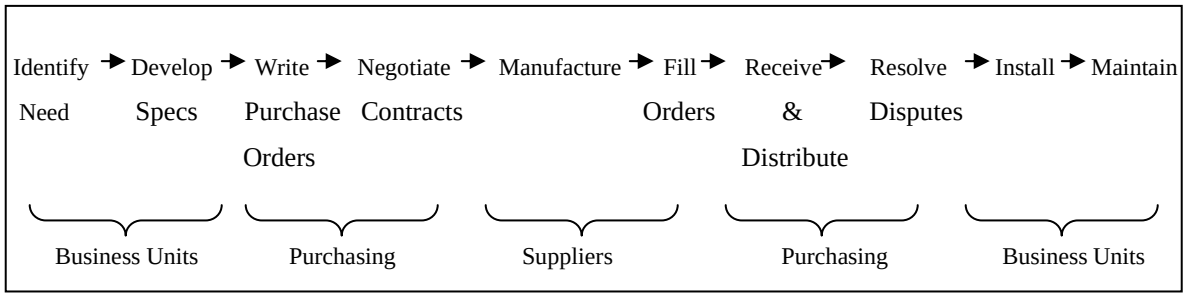

Figure 1. Traditional Purchasing Model (From: Harnessing Value in the Supply Chain-Strategic Sourcing in Action)

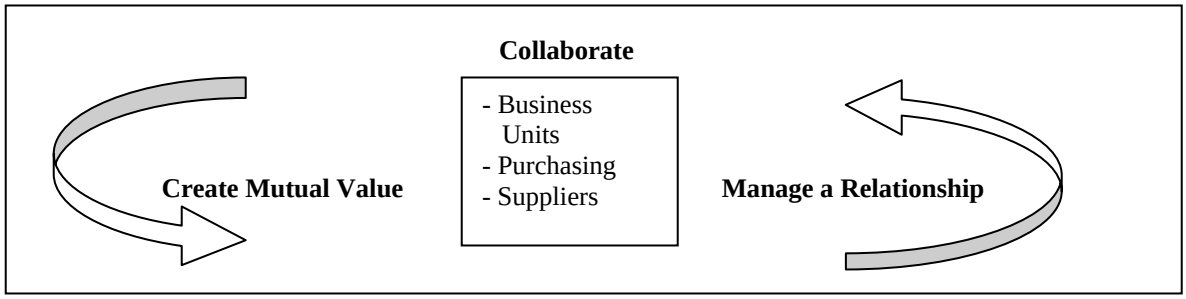

Figure 2. Strategic Sourcing Model (From: Harnessing Value in the Supply Chain-Strategic Sourcing in Action)

It is recognized that the two key concepts of strategic sourcing are leveraged buying and a reduction in total supply chain costs. These concepts are especially important for the Department of Defense, where every year DoD leaders strive to do more with less. In a speech given on the future of acquisition in the military, Secretary of Defense, Donald Rumsfield validated this issue saying, "…business as usual within the United States is not a viable option given the new strategic era …Without transformation, the U.S. military will not be prepared to meet emerging challenges" (Bowman- slide 4). For these reasons, along with the increasing costs of weapons systems in keeping abreast of advancing technologies in support of the warfighter, the Air Force is adopting strategic sourcing in their procurement structure through the use of commodity councils.

C. THE COMMODITY COUNCIL

By 2005, the United States Air Force plans to implement a "commodity council" structure to decrease total cost of ownership, decrease lead times, and increase Air Force purchasing flexibility. Commodity councils are cross-functional sourcing teams that develop enterprise-wide procurement strategies to integrate customers and suppliers and are responsible for driving commonality and standardization to reduce the overall cost of ownership. At this time the Air Force fulfills individual unit requirements through policies and procedures that are specific to the buying organization. Because the majority of purchasing actions are decentralized, the Air Force tends to pay higher prices for goods and services and reduces its ability to influence suppliers across the industry. Under the new system, instead of base contracting offices writing contracts for their particular needs, an Air Force-wide strategy will be developed by the commodity council that focuses on the entire AF need for a particular commodity (Reese).

A "commodity" is simply defined as a segmentable category of goods and/or services, although this does not imply an expendable or non-complex item (Hansen 1). Commodity councils are created based on the category of goods or services being procured. According to the book, Supercharging Supply Chains, "commodity teams are structured around products or services that have similar technical characteristics or applications, …acquired from a common supply base in which aggregated buying will increase relative leverage or yield other mutual benefits" (143). Strategic sourcing weighs the importance of these items and how critical they are to the business's overall objectives in determining how much effort and time will go into the development of their sourcing strategies. Identifying these critical commodities involves extensive market research in order to accurately develop sourcing strategies that are aligned with enterprise-wide requirements, and with that selecting a supplier base that can meet those requirements. By identifying and centralizing the procurement of critical commodities, there is a consistent relationship built with suppliers whereby the Air Force becomes one customer instead of many. Once a strategy is in place, the actual execution of the commodities will take place at a decentralized or local unit level.

In their strategies commodity councils will also set out to streamline the pool of suppliers to further encourage collaborative relationships. The strategies will include the number of approved suppliers and the effort awarded to each, a recommended list of local and global suppliers, supplier development plans, a methodology of supplier relationships, and plans for socio-economic programs. (Reese). In assuring that socio-economic considerations mandated by the Federal Acquisition Regulation (FAR) are being considered, small business experts have been involved in the development of commodity councils from the beginning. In essence, commodity councils must develop their procurement strategies with full consideration of small business obligations and opportunities (Bowman1–slide 18). In addition, responsibilities of the commodity councils would also include: creating and maintaining supplier relationships, the integration of suppliers, driving commonality and standardization of requirements, volume leverage, reducing costs, developing guidelines, strategies, and scorecards, and determining what level of effort should be decentralized.

It is the vision of the Air Force that a commodity council approach to procurement will "achieve cost savings and performance improvements by leveraging commodity volumes across the Air Fore" (Reese). In presenting a single face to suppliers, the strategies developed by commodity councils are expected to eliminate duplication of effort, minimize supply chain costs through integration and collaboration with suppliers, and demonstrate the power of leveraged purchasing through bulk buying. On a more practical level, commodity councils lead to a more open exchange of communications between the customer and contracting units because experts from the functional areas are now involved in formulating the purchasing strategy. Additionally, because the councils are cross-functional in nature, it provides a forum where solutions to problems or questions are addressed by individuals of different specialties that can offer diverse solutions. 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).

D. IBM

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 to 39.5 percent from 50 percent, and the loss before taxes was $400 million. Just the year before, IBM had a pretax profit of close to $1 billion in the first quarter. April's profit in 1993 went down 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 and purchasing became an administrative function and nightmare. There was end user dissatisfaction, a tactical instead of strategic focus, a process that was paper intensive, and technology that was a patchwork of legacy systems (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 they were spending their money and how much of it. Next, the Company had to transform into the centralized organization. The purchasing population at IBM was largely administrative, just trying to support the daily transactions; therefore they were not strong in the area of strategic sourcing. The transformation took about three years to accomplish in itself (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 (strengths, weaknesses, opportunities, and threats) 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 with the number of suppliers decreasing from over 200,000 to about 2,800 representing about eighty percent of IBM's total spending. The smaller group of suppliers allowed IBM to establish closer relationships resulting in more information sharing (Blair 1). As of 2003, electronic purchasing made up about ninety-five percent of purchasing, whereas in the 1990s this percentage was less than twenty percent. The purchase order (PO) process time decreased from thirty days to less than one day, and end user satisfaction was raised from forty percent to eighty-two percent ("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. Mr. Richter helped lead the Air Force to a commodity council strategy as he presented the Air Force with his fundamentals of industry procurement. In particular, he presented the elements of a procurement strategy, e-procurement, and his own procurement core values (Richter).

Mr. Richter stated 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 its 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 the improved efficiency, better productivity, faster

processing, and greater visibility. Mr. Richter acknowledged this and formulated e-procurement goals for industry. They included, financial advantage, strategic global sourcing, quicker response to marketplace changes, a paperless environment for purchasing, and an increased competitive advantage (Richter).

He cautioned the Air Force to avoid the trap of focusing only on efficiency in creating e-procurement applications, for this only brings about one to three percent 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 that it is essential to seek a full understanding of your organization's and your suppliers' capabilities, wants, and needs. Integrity and teamwork ensure that both your organization and its suppliers keep to the letter of all agreements, build long-term relationships, and never compromise corporate interests in pursuit of local interests. The last core value, initiative and urgency, ensures that the Company Hs 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 his presentation with saying that a company must understand the goals and objectives for each commodity. This includes understanding the value of its internal customer and the wants from the commodity council, both short and long term (Richter).

E. AIR FORCE INFORMATION TECHNOLOGY COMMODITY COUNCIL

Headquarters Standard Systems Group (HQ SSG), Maxwell Air Force Base (AFB)-Gunter Annex, Alabama, was tasked by the Air Force's Deputy Assistant Secretary (Contracting) (SAF/AQC) to set up the pilot commodity council for the Air Force, the Air Force Information Technology Commodity Council (AFITCC). Headquarters SSG was selected by the Air Force Chief Information Officer (CIO) and SAF/AQC to head the newly formed AFITCC because according to the director of the council, "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 centralize strategies for Information Technology (IT) commodities, to include 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 to

include the director, deputy director, a project manager, a contracting officer, and a legal advisor. In addition there are six members from Air Staff 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 spend in any commodity category to include IT. The AFITCC will better leverage Air Force IT spending to reduce the unit cost for goods and services. Key objectives of the AFITCC include fulfilling user needs for IT commodities, formulating 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, and services. Not only is IT a huge market, but technology is rapidly changing and there is a narrow window of discount opportunity. These are excellent reasons to implement a commodity council and centralize purchasing ("IT Commodity Management: The Road Ahead Slides").

Congress considers IT one group -- consisting of everything from radars and communication satellites to management systems. The DoD has decided to break this category into two starting in 2005: warfighting and business related IT (Tiboni). The AFITCC is to build 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 Commodity Acquisition Management Plan (CAMP) for the AFITCC is divided into two parts. Part one is the overarching management plan that consist 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 to include 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 1 was approved. The AFITCC was rolled out at the Air Force Information Technology Conference (AFITC) in Montgomery, Al on 20 August 2003 (Bowman1). 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 quarterly and the next one is scheduled for 30 March 2004. Currently, the council is working on a new strategy for DIP and the strategy is expected to be completed by June (Priest).

The AFITCC is tasked with answering the following questions. What kind of IT do our users need to get their job done? How much should we pay for it? Will the IT we select be compatible with the hardware and software we already own? Where do we spend our IT dollars currently? Who are the IT market leaders? Can some small and/or new businesses in the IT field meet our needs?

In order to answer some of these questions, the council first looked at a spend analysis for personal computers (PCs) and servers since this had been identified as spiral one in the CAMP. In their analysis, they found that between the years of 2000 and 2003 the Air Force spent about 59% of IT funds for desktops, 21% for laptops, and 20% for servers. However, they noticed an increasing shift from desktops to laptops. Other trends they noticed in the PC and server arena included, purchases being made to replace aging equipment and the fact that there were normally three to four peak buying periods for PCs and servers, the largest being at end of year (EOY) (see figure 3 below for graphs of fiscal year (FY) 2001 and 2002 spending). Additionally, eighty percent of desktops and laptops purchased were Dell, Gateway, or MPC, and on average three-year warranties were purchased for the PCs. Finally, most purchases were made thru AFWay (the Air Force's web-based system for purchasing Information Technology) or the Commercial Information Technology Product Area Directorate (CIT-PAD) and units were reliant

upon fallout and O&M (Operations and Maintenance) funding (Gaylord).

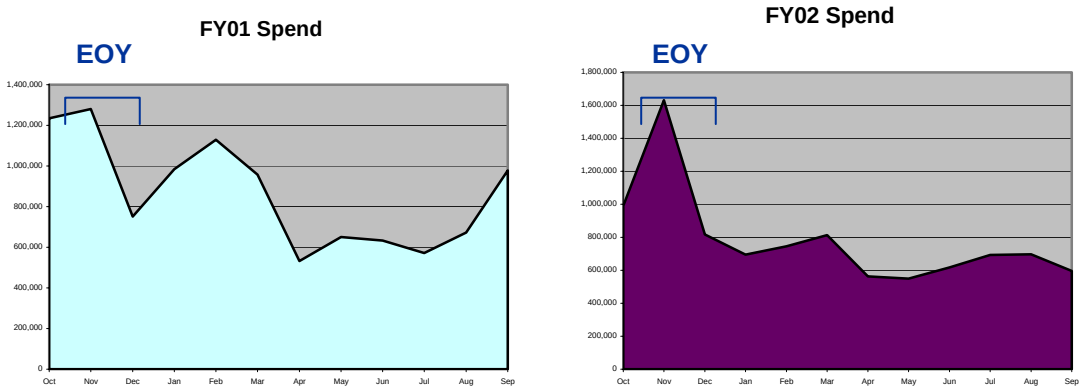

Figure 3. FY 01 and 02 IT Spend Analysis (From: Navy CIO slides Presented by Lt Col Thomas Gaylord)

When conducting a market assessment, the council found that the government has less than ten percent of the United States market for PCs. Dell, HP, Gateway, and IBM dominate the PC market, while MPC is focused on the government and large businesses. The same is true for the server market, where Dell, HP, and IBM control 62% of the market share. In regards to their supplier network, Dell, Gateway, and MPC are direct suppliers, while HP is both direct and through resellers, but 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 18 months. For instance, in 2005 the PC standard will be 8GHz with one billion bytes of disk. They also identified Intel based IA-32 servers represent 92 percent of all industry and although Windows is the dominant operating system, Linux is increasing in popularity (Gaylord).

The Air Force's major commands 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. It also helped insure customers were purchasing computers meant to last for three to four years and also met 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 received an order of

approximately $7.5 million. Accordingly, AFMC was able to purchase 12,500 PCs instead of the 10,000 originally planned (Temin).

The first trial of the new commodity council concept, saved three Air Force MAJCOMs more than $4 million 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. ACC was about to increase their purchase by 778 computers and AETC was able to save about $3 million in the purchase of 8,969 desktops and 235 laptops (Air Force Link).

The AFITCC is 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 with suppliers expected to provide the "most favorable pricing." Suppliers that can satisfy the Air Force's IT requirements while providing value are awarded the pricing agreements. While negotiating, the AFITCC looks at the supplier's pricing structure, training and support that is required, products and services offered, exchange and return policy, payment terms, financial stability, and the 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 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 eBusiness and eCommerce processes, which guide the user through requirement approvals, the actual purchase, 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 exploit 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 eCommerce solution for the AFITCC and will provide the customer with pre-negotiated contracts;

pricing below manufacturers' retail and GSA (Government Service Administration) pricing; one stop shopping for IT requirements; 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 for the future.

There have been many lessons and constraints discovered though the initial implementation of the AFITCC. The Air Force realizes that it is not a market driver, but rather a market follower: therefore, the Air Force needs to respond to frequent mergers, takeovers, and poor performers. Commodity councils must also be astute in aligning Air Force strategy with Small Business capability to make sure the small business goals are met and small businesses are not left out. Another lesson learned is that deviation from commercial practices drive up costs. Additionally, tech refresh strategies are a must in order to accommodate technology advancements. Buyers should be prepared to leverage opportunities for significant discounts to include bulk buying, and realize continuous competition is needed to achieve best value. Some constraints recognized while implementing the AFITCC were limited flexibility due to socio-economic goals; the limited data available for analysis of inventory, spend data, and reliability; decentralized funding for centralized purchasing; and that some public laws preclude commercial practices, therefore increasing costs ("IT Commodity Management: The Road Ahead slides").

The AFITCC has clearly been successful. Cost savings have been significant and satisfaction among the MAJCOMs has been substantial. In the past, the procurement process was incremental; contracts were tactical; the focus was on getting 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; eBusiness facilitates procurement; and procurement is based on of FAR Part One flexibility. The table below (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 does their own) - One group does 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 exemplified in leaders such as John Deere, Honda, Motorola, and SmithKline Beecham. Their best practices include study groups, technical courses, sharing training costs with customers, and benchmarking visits. Internal training included a variety of basic courses, but also included quality methods and "human factors" training in communications and running meetings. Some companies make the training available to their suppliers as well ((Nelson, Moody, and Stegner 55).

The Air Force has recognized these initiatives and plans to invest in the training of commodity council and procurement personnel. The Air Force workforce will need to have an enhanced skill set and become eBusiness experts. The workforce will become supplier relationship managers. Skill sets required for procurement professionals in the future should be analyzed and special emphasis should be placed on identifying skills required to enable team members to be more market savvy and e-procurement minded. A list of core competencies for officers, enlisted, and civilian personnel 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. Skill set gaps can really hurt the organization because the individual buyers control seventy to ninety percent of the costs of a commodity. Therefore, training is crucial for the success of commodity councils.

F. CHAPTER SUMMARY

The commodity council strategy and purchasing initiatives in the commercial sector have proven to better leverage and 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, was established to develop centralized strategies for information technology commodities. The results of implementation have been remarkable in that cost savings of millions of dollars have been achieved. Most of the literature review, however, does not reveal how the implementation of commodity councils have effected commercial firms nor how it will effect Air Force contracting offices. Our report will address this area, intending to advise Air Force organizations on how to effectively implement the commodity council concept.

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III. METHODOLOGY

A. CHAPTER OVERVIEW

The purpose of this chapter is to describe the research objectives and methods used in our study. In particular it will highlight the research design and case study methodology we applied to our analysis. Additionally, it will detail the data collection process used and outline the procedures used in formulating the interview questions. Finally, we address how validity and reliability issues were dealt with.

B. RESEARCH OBJECTIVES

The purpose of this study is to identify trends and patterns private sector companies have experienced when implementing a commodity council or strategic sourcing structure within their organization. More importantly, we considered how these same trends may affect the Air Force as they implement a commodity council structure throughout their organization. Specifically, what effects will commodity councils have on the Contracting Offices and System Program Offices (SPOs) in the operational Air Force? In particular, we investigate how these two organizations may change in regards to the following: How may the organizational structure and design of the operational units change? What additional skill sets may be required of personnel? What training may be required to bridge the gap between skill sets? Are there any differences in procurement procedures following implementation? And what are likely to be the biggest challenges in making the implementation? Additionally, changes in regards to personnel issues will also be addressed: How will personnel react to the changes? And how best should the Air Force go about communicating the changes?

C. RESEARCH DESIGN

In his book, Research Design Qualitative and Quantitative Approaches, John Creswell states, "The design of a study begins with the selection of a topic and a paradigm." Paradigms in the social sciences help us to advance assumptions about the social world and what constitutes legitimate problems, proof, and solutions (Creswell, 1994:1). He later defines a qualitative study as one, "...designed to be consistent with the assumptions of a qualitative paradigm. This qualitative study is defined as an inquiry

process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting"(Creswell, 1994:1-2). This qualitative study enabled various experts in selected purchasing departments to share their involvement and knowledge on strategic purchasing impacted their organization. It also allowed the interviewees to speak about barriers, challenges, and successes their office encountered when attempting to implement their strategic sourcing method.

In a more recent book, Creswell gives eight reasons to choose a qualitative approach over a quantitative one. First, involves the nature of the study. In a qualitative study the researcher begins with a *how* or *what* question while in a quantitative study one begins with a *why* question and looks for a comparison of groups. Second, a qualitative study is chosen because the topic needs to be *explored*. Third, there is a need to present a detailed view of the topic. Fourth, qualitative approaches study their participants in a natural setting. Fifth, a qualitative approach may be chosen because of an interest in writing in a literary style. Sixth, there must be sufficient time and resources to spend on data collection and data analysis. Seventh, choose a qualitative approach if the audience is more receptive to qualitative research. And finally, the qualitative approach allows the researcher to be an *active learner* (Creswell, 1998: 17-18). In conclusion, inductive logic prevails in qualitative research. Categories emerge from informants instead of being identified prior to starting the research. This provides "context-bound" information leading to patterns or theories that help explain a phenomenon (Creswell, 1994:7).

D. METHODOLOGY

In his book, Case Study Research: Designs and Methods, Yin states that there are three conditions to consider when choosing a research strategy: "(a) the type of research questions posed, (b) the extent of control an investigator has over actual behavioral events, and (c) the degree of focus on contemporary as opposed to historical events" (Yin, 2003:5). He goes on to explain that *how* and *why* questions are more *exploratory* and likely to favor the use of case studies (Yin, 2003: 6). Finally, Yin expounds that the case study is a preferred method when studying contemporary events, but when the behaviors cannot be manipulated. That is it involves direct observations and/or

interviews of the persons involved in the event being studied, but the investigator has little or no control (Yin, 2003: 7-9). The concept of commodity councils is contemporary both in industry and in the Air Force, and therefore is applicable to real life situations. Furthermore, our research involved interviews of subject matter experts within industry and we, as the interviewers, had no control over responses.

The case study methodology was used in our research to identify trends experienced by private sector companies following implementation of commodity councils or strategic sourcing procedures. 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. A case study can be used to build upon theory; explain a situation; explore, or describe an object or phenomenon. 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).

For the purposes of this research, we will utilize the cross-case synthesis method of analysis. This technique applies specifically to the analysis of multiple cases and involves the collecting findings from across a series of individual studies and making comparisons between the cases. Each company that we interviewed will be an individual study and comparisons will be made from the responses.

Our research is focused on generating ideas for how the United States Air Force can reorganize its purchasing organizations upon implementation of commodity councils. Therefore, the following questions must be answered. What additional skill sets may be required of personnel? What training may be required to bridge the gap between skill sets? Are there any differences in procurement procedures following implementation? What are likely to be the biggest challenges in making the implementation? How will personnel react to the changes? How best should the Air Force go about communicating the changes? Faced with these types of questions Yin, and other experts in this field, recommend a case study as the desired method for research.

E. DATA COLLECTION

In determining the affects of Commodity Council implementation on the operational Air Force it was necessary to conduct interviews with commercial companies that had previously employed strategic sourcing practices. Companies were selected based on recent publications highlighting their best practice procedures and from teleconference meetings with members of Headquarters Air Force Contracting (SAF/AQC). Upon finalizing the list of companies to be interviewed, they were contacted via phone or email regarding a point of contact for their strategic purchasing division. A total of seven private companies and one governmental entity were identified as appropriate subjects for the study. The private companies selected were as follows: 1) Federal Express 2) National Cash Register Company (NCR) 3) International Business Machine (IBM) 4) Cessna 5) Kaiser Permanente 6) GTSI Corporation 7) Welborn Clinic and 8) City of Seattle (Copernicus Project). For the purposes of this study, all of the aforementioned will be referred to simply as 'Company X' with 'X' being an alphabetical designator.

All of the interviews were guided by a questionnaire made available to the interviewee beforehand. For credibility purposes, a letter endorsed by the Dean and a letter from SAF/AQC were also sent with the questionnaire (Appendix A). The questionnaire was broken into six subject headings: Job Description, Training, Change in Manpower, Company/Division Realignment, Change in Procedures, and Human Aspect. The questions were derived from a RAND study entitled, "Project Air Force – Implementing Best Purchasing and Supply Management Practices." In creating the questionnaire, an initial set of 38 questions were selected and sent to subject matter experts from the Air Force Logistics Management Agency (AFLMA) for review and to ensure validity. Following their comments, the number of questions was reduced to 17. A list of the interview questions used during the study can be found in Appendix B.

Each interview was conducted via a teleconference meeting with a subject matter expert(s) in a position that allowed them to discuss in detail the changes that had been involved and experienced following the implementation of commodity councils or strategic sourcing practices. Each interview on average lasted between 45-60 minutes.

All of the interviews were tape recorded and later transcribed by an outside professional source[1]. The transcripts were used as our primary source of data for this study.

F. RELIABILITY/VALIDITY

According to de Vaus (2001: 30), "a reliable measure is one that gives the same 'reading' when used on repeated occasions." Hedrick, Bickman, and Rog give a good definition of validity in the book, Applied Research Design A Practical Guide. They state that validity "...provides a clear explanation of the phenomenon under study and controls all possible biases or confounds that could cloud or distort the research findings" (Hedrick, 1993: 39). Yin breaks down validity further into three categories: construct, internal, and external. Construct validity is defined as "establishing correct operational measures for the concepts being studied (Yin, 2003: 34). Internal validity is "establishing a causal relationship, whereby certain conditions are shown to lead to other conditions" (Yin, 2003:34). And external validity is "establishing the domain to which a study's findings can be generalized"(Yin, 2003:34). Studies need to be reliable and valid, but having one characteristic does not ensure the other is present. A study can be reliable without being valid, in that a measure can be constantly wrong (de Vaus, 2001: 31).

Yin provides the following case study tactics for ensuring validity and reliability. To ensure construct validity he recommends using multiple sources of evidence, establishing a chain of evidence, and having key informants review the draft case study report. To ensure internal validity, a researcher can do pattern matching, explanation building, address rival explanations, or use logic models. To address external validity, one can use theory in single-case studies or replication logic in multiple-case studies. Finally, to address reliability, Yin suggests using case study protocol and developing case study databases (Yin, 2003: 34).

To increase reliability, themes and patterns were identified among the companies' qualitative responses. While this process involved informal scrutinization of the data, all inconsistencies were discussed and adjusted until both researchers were in agreement. To increase validity, multiple types of companies were interviewed and experts from the Air

[1] Transcripts can be requested from the authors or advisors of this study.

Force Logistics Management Agency reviewed the interview questions to make sure that the concepts were accurately depicted in the survey.

G. CHAPTER SUMMARY

This chapter described the research objectives and research design employed. Our data collection was explained in detail and validity and reliability were addressed. Now with a complete understanding of our methodology and objectives, chapter takes outlines the background of the firms selected and our data gathered.

IV. RESULTS AND ANALYSIS

A. CHAPTER OVERVIEW

The purpose of this chapter is to present results and findings of our research. A brief background of the companies that were interviewed is given. Following is the list of interview questions, broken out by topic and the patterns that emerged from the responses.

B. BACKGROUND ON FIRMS

As previously discussed, the companies and government agencies included in this study were selected due to their implementation of either commodity councils or a form of strategic purchasing within their purchasing organizations. The nature of the company's business has a direct impact on their strategic sourcing practices and helps to explain the varied responses we received. For this study, companies came from all segments of industry to include: information technology, aerospace manufacturing, city government, courier services, and both medical and insurance healthcare. The summaries below indicate how these firms view themselves.

IBM

Incorporated in 1911, IBM strives to be the leader in the invention, development and manufacture of advanced information technologies. IBM is the world's largest company in information technology, as well as the world's largest business and technology services provider at $36 billion. They develop and manufacture computer systems, software, storage systems and microelectronics. Nearly all of IBM's products are designed to record, process, communicate, store, and retrieve information, from the beginning of the company until present day. IBM has met demands of the industry such as the Internet, e-business, Y2K, and mobility (IBM, 2004).

Cessna

Cessna is the world's leading producer of general aviation aircraft, having produced over 184,000 aircraft since it was founded in 1927. Headquartered in Witchita, Kansas, Cessna Aircraft Company manufactures the most complete line of aircraft in the

world. Over half of the general aviation aircraft flying today including, Citation business jets, freight- and passenger-hauling utility Caravans, and personal and small-business single engine pistons are Cessna's (Cessna, 2004).

NCR

Founded in 1894 by John Patterson, the National Cash Register Company (original name of NCR) was the first manufacturer of mechanical cash registers (NCR, 2004). NCR is the leading manufacturer of ATMs, and they are also known for Point-Of-Sale (POS) terminals, bar code scanners, and POS systems (Hoover's Online, 2004). The company changed its name to NCR Corporation in 1974 and was acquired in 1991 by AT&T. NCR also purchased Teradata Corporation in 1991 thereby creating NCR Teradata, becoming the world's leading database for data warehousing. NCR moved away from computer hardware manufacturing in 1998 and began to concentrate on the market-differentiated software and services components of their solutions portfolios (NCR, 2004).

GTSI Corporation

GTSI, formally Government Technology Services, is an IT solutions leader, focusing on sales to the federal, state, and local governments worldwide. Founded in 1983 and headquartered in Virginia, the company resells computers, software, and networking products to government agencies. GTSI currently offers over 250,000 IT products from more than 1300 manufacturers such as HP, Microsoft, IBM, Sun Microsystems, and Cisco. GTSI has Technology Teams of experts which support integrated IT solutions in areas such as high performance computing, advanced networking, wireless, web portals, high availability storage, and information assurance (GTSI, 2004).

City of Seattle - Copernicus Project

The Copernicus Project is Seattle, Washington's city-wide approach to strategic sourcing. It aims to leverage the city's economic buying power by bringing together the individual departments to identify and implement best value procurement strategies. In doing so, the city hopes to identify and develop process efficiencies, build strong vendor

partnerships, create more comprehensive/quality contracts, and improve communications across departments. The city's strategy relies on commodity teams that obtain best value goods and services through innovative procurement solutions. In particular, commodity teams take an enterprise-wide approach to procurement and look at multiple departments in determining what commodities and services can be purchased in volume for added savings (City of Seattle, 2004).

FedEx

FedEx, which began as a division of Roadway Package System, has grown into a $26 billion dollar network of companies. Success followed from being the first ground business carrier to use bar coding and automated sorting to provide customers with better information about their packages. The company is divided into two main operating companies, FedEx Ground and FedEx Freight. Today, FedEx Ground ships 2.1 million packages every business day and at present, FedEx Freight is the leading U.S. provider of next- and second-day regional, freight services (FedEx, 2004).

Welborn Clinic

Welborn Clinic, located in Evansville, Indiana, is a physician group with more than 100 doctors and health care providers in over thirty medical specialties. The clinic also operates nine satellite clinics in the Tri-State region of Indiana, Illinois, and Kentucky. Welborn Clinic ensures that operations and policies are in the patients' best interest by being owned and operated by its physicians. Nationally-recognized for patient care, Welborn Clinic physicians provide a full range of state-of-the-art medical services , including ambulatory surgery and nuclear medicine (Welborn Clinic, 2004).

Kaiser Permanente

Kaiser Permanente, a not-for-profit entity, is among the largest integrated health care systems in the United States. Founded in 1945, it offers health care services with a network of about 11,000 physicians belonging to Permanente Medical Groups, thirty medical centers, and over 400 medial offices. Together they form the Kaiser Foundation Hospitals and the Kaiser Foundation Health Plan. Kaiser Permanente serves the health care needs of about 8.3 million members and operates out of California, Colorado,

Georgia, Hawaii, Maryland, Ohio, Oregon, Virginia, Washington, and Washington DC (Hoover's Online).

C. INTERVIEW RESPONSES

Analysis of the transcripts revealed a series of patterns and/or trends amongst the companies in their responses to the interview questions. In some cases, questions received very similar, if not identical, answers leading us to believe that there are lessons and best practices to be learned and applied elsewhere. We are primarily concerned with what the Air Force can take away from this study in its efforts to put strategic sourcing into action. As mentioned previously, the companies will be denoted with letter designators.[2] The patterns that emerged for each of the questions are listed below.

Job Description

Qualitative Responses to Q1

What job skills were required for purchasing personnel before implementation of the Commodity council?

Most often the companies' purchasing actions were reactive and done on a case-by-case basis that did not take into account future procurements for the same or similar items. Furthermore, the interviews revealed that the companies' policies and practices focused on tactical purchasing and relied heavily on individual processes and administration. Company E explained that before they adopted strategic sourcing in their organization, 99% of their contracting actions were tactical with no formalized strategy in place. Employees were trained to make each purchase separately based on the commodity being bought and the dollar value of the requirement. Company G pointed out that the majority of their buys were decentralized with each business unit having its own purchasing process. Companies F and B explained that employees had adequate skills for local contracting which included day-to-day contracting actions such as, making sure advertised specifications are appropriate, interacting with customers, advertising bids, evaluating and awarding contracts, handling protests, and other basic administrative details.

[2] Incidentally, the list of companies above does not necessarily coincide with the sequence of letters in the phonetic alphabet.

Qualitative Responses to Q2

What skills are required now (after implementation of the Commodity Council)?

Following adoption of strategic sourcing, many employees were required to adopt a strategic mindset and advanced skills. According to Company F, contracting became more proactive and was based on a formalized strategy and vision that considered the entire supply chain when determining how to align the company with its vendors. Company C reiterated this claim, pointing out that in moving from tactical to strategic sourcing, employees had to learn how to source commodities and make good business decisions for the corporation overall, and not just for the particular business unit they supported. For Company C, this meant employees were now expected to think strategically, lead cross-functional teams, learn to become business leaders, improve communication skills, and learn ways to get senior executive support for initiatives. Along these same lines, Company B maintains that with the increased number of blanket contracts, they now desired employees with public sector buying experience who were able to innovate and implement strategies with a "big picture" perspective and were familiar with working on teams. Regarding commodity councils specifically, Company E explained there are typically more personnel with engineering and logistics expertise with procurement assignments than would have been previously. It is important to note that for two of the companies (Company H and G), no skill sets were reported as having changed.[3]

Training

Qualitative Responses to Q3 and Q4

What training was required after implementation of Commodity Council(s)?

What training was eliminated, if any, after implementation of the Commodity Council?

Pursuant to the strategic sourcing procedures introduced, all companies interviewed developed or changed employee training programs to reflect the new strategy. Even so, the companies focused on different aspects of the strategic sourcing

[3] Although not specifically addressed, we believe skill sets were most likely changed.

concept and employed different training approaches. For example, Company E focused on the overall concept of strategic sourcing and trained employees to understand integrated end-to-end supply chain management. Company E worked with universities to develop a curriculum (25 credits) tailored to company procurement practices; although it was not made clear whether employees were required to take the courses or just "highly encouraged." Like Company E, Company F trained its employees on the basics of strategy and how to categorize vendors within a new strategic model. Company D also took a macro approach by educating employees on all functional areas within the company and how strategic decisions within one department could create a "ripple effect" throughout the entire company. They also felt it was important for their employees to improve upon their business writing skills.

On the other hand, some companies took more of an interpersonal approach, focusing on the social aspects and cultural changes involved with implementing change. Company A embraced this approach, acknowledging that it was necessary to "evolve" into the change dealing with people and how they interact with one another. Company A explained that such a change required a deeper understanding of how people think and work. Because of this, they brought in a nearby university that conducted lean training and made employees more aware of basic people skills. Company B also took this approach in their training, focusing on *how to:* work in a team setting; reach a consensus when working in a team; be an active listener; delegate responsibilities; voice opinions and offer constructive criticism; relate to different personality types; and communicate. Company B also held formalized classes for all team members to gain a better understanding of what would be involved with the new strategic contracts, especially writing the specifications and administering the details of the procurement process according to the laws and regulations in place.

Training among the companies ran the gamut from simple on-the-job training (Company H), to more involved classes in a formal setting. The latter was true for Company C. To become a member of the strategic sourcing team, each employee was required to go through ten separate modules on supply chain management in a classroom setting. Even after classes ended, the training modules were kept posted on-

line to serve as a 'refresher' and opportunity for continuous learning. Like Company C, Company G also required employees to take formal courses covering global procurement processes and strategic negotiations. They also encouraged continuous learning by allowing employees to get professional certifications at the companies' expense. Notably, none of the companies reported that any training had been eliminated.

Qualitative Responses to Q5

Did your suppliers have the skills/expertise needed to participate in strategic sourcing, implement continuous improvement, etc.? If not, did you provide training for them?

Training for suppliers varied by industry. For the most part however, all the companies undertook some type of training for their suppliers. Although Company E conducts supplier training, many of the major distributors are already operating in a collaborative relationship with their suppliers. Company C also commented that cost savings sharing between buyers and suppliers is becoming an industry-wide expectation, and some companies are now formalizing this into their agreements with suppliers. Despite this, Company C invites their top suppliers to an annual Global Supplier Symposium. At the symposium, the company and its major suppliers establish a scorecard that extends across commodity areas and determines which commodities have the greatest potential to leverage spending. At the seminar, Company C also shares with suppliers what can be expected in the future, the newest strategic vision for sourcing, e-procurement tools, e-sourcing events, etc. More than anything, Company C explained that the symposium makes suppliers more comfortable in openly communicating and sharing “out of the box” cost saving suggestions. Similarly, Company B also held symposiums with suppliers recognizing that the suppliers themselves were the most knowledgeable and creative when it came to dealing with their products. Company B focused on gaining supplier participation in developing strategies and obtaining information through the sharing of forecasts.

Companies took different approaches to supplier training. For Company F, this meant a three-day workshop where strategic suppliers were made aware that more value-added services and continuous improvement were expected of them. Similarly Company E hosted a supplier summit for the top 20 suppliers in addition to a separate

summit solely for the CEOs of those companies. At this summit, the company asked for advice and input; but apart from meetings like this, it is left up to the individual commodity councils to educate their suppliers. Company G took a more involved approach to supplier training. Company G maintains a rather close partnership with their suppliers so that they are better able to make engineering changes to their product line. In this case, all their large suppliers have Six Sigma programs[4] and are expected to understand commodity councils. They also provide their smaller suppliers with resources, such Six Sigma training and pay Six Sigma to work with them in developing new products.

Change in Manpower

Qualitative Responses to Q6, Q7, and Q9

How many employees did you have dedicated to contracting/acquisition procedures (e.g. purchasing, administration, closeout, etc.) prior to Commodity Council implementation?

How many employees do you now have dedicated to contracting/acquisition procedures (e.g. purchasing, administration, closeout, etc.)?

Based on a new desired skill set, was there a great desire/need to hire new employees?

For all of the companies interviewed, the number of employees either decreased or remained the same following the implementation of strategic sourcing practices. For Companies C, E, and F the former is true. With the new changes, Company C underwent a massive reorganization (although not entirely attributed to strategic sourcing), reducing employees by almost 20%. Company C subsequently found it necessary to increase purchasing personnel by a small percentage because of new responsibilities. Notably, Company C still maintains two separate purchasing divisions, one of which is more tactical in nature. In addition, Company C has done away with Quality Assurance Evaluators. Employees must now rely on the relationships developed with the representatives in the field and actively seek their feedback.

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[4] Six Sigma is a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving towards six standard deviations between the mean and the nearest specification limit) in any process -- from manufacturing to transactional and from product to service. *http://www.isixsigma.com/sixsigma/six_sigma.asp*

In the case of Company E, procurement employees were reduced by a small percentage; the bigger change was in the overall focus of the workforce. At the forefront of the transformation, 85% of the workforce was focused on transactional actions compared to only 15% that were involved with strategic decision-making. Since then those numbers have flipped, with 85% of the employees involved with sourcing work, conducting market intelligence, and developing strategy. Company E was able to retrain or reposition most of their employees, but in some cases employees had to leave because they could not be moved. Automated systems are able to do much of the transactional work and the job security associated with seniority is not what it has been. Company F also reduced its workforce, losing one Full Time Employee (FTE). They explained that because contracts were now negotiated nationally and within group settings, less time was needed to work on contracts individually.

On the other hand, companies A, B, D, and G reported that they did not change the number of employees; rather they transformed and transitioned employees. Company G explained they tried to find their "best of the best" internally, focusing on those employees with the new skills, and then promote them to director level positions. Both Company B and D transitioned their employees to form more cross-functional teams. For Company D that meant sixteen employees would be transitioning under one team. Company A did not reduce the number of employees, mainly because individuals on commodity teams were viewed as being valuable and are therefore "protected." Notably, none of the companies reported any great need to hire additional employees.

Qualitative Responses to Q8

Did you upgrade any purchasing positions to reflect the more sophisticated skill levels required to implement strategic sourcing?

Strategic purchasing requires advanced and more involved purchasing positions. In addition to contract administration, employees are now responsible for aspects of program management and an overall understanding of strategic sourcing. Employees are expected to respond to operational issues and problems, while continually looking for ways to reduce spend. In light of this, Company C now looks for different skill sets when hiring employees, such as specific experience and degrees that are more

business oriented. Similarly, Company E's purchasing positions were upgraded to reflect a more sophisticated skill level. They also transferred individuals from engineering disciplines to procurement positions to further promote the cross-functional team approach.

In addition to enhanced employee skills, Companies B and G either elevated or introduced an employee position. For Company B, this involved elevating a buyer position to a lead position, in which an individual oversees the different commodity councils. On the other hand, Company G created a high-level position (one level below the vice president). In this position, the individual is responsible for buying a particular commodity across all five divisions of the company and must be able to interact with senior management. A high-level position within the company was needed to give the individual authority to back their position. However, Company F asserted that with contracting going away opportunity for promotion accordingly lessened.

Company/Division Realignment

Qualitative Responses to Q10

How would you describe your former organizational structure (e.g. wiring diagram, organizational chart, matrix, etc.) prior to Commodity Council implementation?

Almost all of the companies described their former organizational structure as being decentralized, with the majority of the processes being tactical and functional in nature. Company G commented that prior to strategic sourcing they would likely have been unable to produce an organizational chart. Along those same lines, Company E stated that prior to the change there was plenty of 'free-will;' "…I ran my region, …and did my own thing." Company F explained that their purchasing functions were separated from the various program offices and top management. Company A had a similar response in that they previously separated their personnel into two groups; those who did the day-to-day functions and those who thought about the future.

Qualitative Responses to Q11

How would you describe your organizational structure (e.g. wiring diagram, organizational chart, matrix, etc.) following Commodity Council implementation?

Following strategic sourcing, most of the companies agreed that their new organizational structure was more strategic and purchasing became more centralized. Company F explained that their purchasing organization became matrixed with the various program offices and top management after the implementation of strategic sourcing. They went on to explain that end users were brought in early on in the decision making process and as part of the sourcing team. In addition, Company A explained that they merged the two separate groups (the doer's and the thinkers) into the same team, although there were still separate roles and responsibilities. Teams are an important aspect of strategic sourcing. Four companies mentioned that teams were now part of their new structure either in a strategic or operational sense. One company stated that operations have become more flexible without any set documentation or business logic that has to be submitted for approval.

Both Company E and Company G created new procurement organizations with commodity teams. Company G commented that commodity teams were like executive committees. Although Company A reported their most fundamental change was a name change to their purchasing department, stating that was enough to "fuel the fire." Even though only two companies stated they got executive buy-in for the restructuring, this was likely an important prerequisite in all of the companies. Sustained and strong support from top-level management is critical to the success of any new program.

Qualitative Responses to Q12

Did your implementation plan include organizational changes, i.e. centralization/decentralization, sourcing teams focused on specific product groups? If so, how did the organizational changes map to your strategic goals for purchasing changes?

More than half of the firms stated their implementation plan included centralization of purchasing functions and generally involved some type of commodity or sourcing team. For Company B, their new organization was referred to as a strategic director's group rather than a team. In becoming more strategic, the companies realized the value of bringing in end-users early in the process. Not only does this make the process more centralized, but also fosters a more collaborative relationship (more and more important within the strategic sourcing concept). In their plan for implementation, Company C executed a pilot program with small test groups to help identify commodities that had the potential to leverage spend. Although the small groups were eventually disbanded, the commodity council concept was in line with their strategic goals. As with anything, "practice makes perfect." This is true in the case of Company A, which reorganized four to five times before they felt they got it right. Company A passed on one lessons learned; "an organization should look at how it is going to do the work and then create the organization accordingly".

Change in Procedures

Qualitative Responses to Q13

How would you describe your former purchasing practices (i.e. functional purchasing processes, focus on pre-award contract negotiation, short-term contracts, smaller contracts, intensive oversight, etc.)? What new practices were adopted following Commodity Council implementation? Who determined the priorities and scope for these changes?

Although there were many changes in procedures, perhaps the most fundamental change was reduction in the functional aspect of the purchasing process. The process became more strategic and streamlined. For example, Company C was able to reduce a seven-step process to four steps. This was primarily because the company stated that operations have become more flexible without set documentation or business logic submitted for approval. On the other hand, Company B stated that they now have

more stringent performance requirements, although they have incorporated round table discussions to facilitate the process.

Another aspect of the change in procedures dealt with the personnel. Employees were now trained to identify cost savings by strategic sourcing. With this came the ability to leverage total spend, in making sure spending is directed towards a pool with few suppliers. Company G stated they accomplished this goal by partnering with their suppliers. For Company E this means yearly strategy reviews with suppliers. Finally, Company B stated they require their suppliers to perform more data collection and reporting.

Company G implemented a six-step procurement process. These steps included a needs specification definition, request for proposal, contract negotiations, a purchase to pay process, performance evaluation, and supplier management. The first step of this process involves intense market analysis and standardization. However, the last two steps, performance evaluation and supplier management, are the steps the company focuses on now. Every month the top suppliers receive a report card that measures their service, delivery, and quality.

Qualitative Responses to Q14

What are the most significant and difficult changes you have implemented? Please explain.

Each company faced difficult changes in their implementation of strategic sourcing. Company B stated that its most difficult change was learning to make decisions for the whole group as a team. The decisions made are smarter ones resulting in savings. Company C noted that training and developing new skills in current personnel was the most difficult change. Opposed to simply "firing and hiring," Company C set out to get incumbent employees the new strategic sourcing skill set. Finally, Company F stated its most difficult change in having a centralized contracting unit is that vendors now have less sense of accountability to the individual regions. The vendors feel that in order to get a contract they must work through the program office; as a result the centralized unit feels they do not know the vendors as well and the vendors do not know the new centralized staff as well. This may be an unintended consequence of

centralized contracting. To prevent this situation from causing service levels to drop, Company F has to work extra hard at communicating with local vendor representatives.

Qualitative Responses to Q15

What were your greatest challenges? What changes have been the most successful?

The challenge most frequently noted was going from decentralized units to a centralized one. Company B explained this was partly a resource issue. Did they need to cut human resources? … did they need more?… or would the current personnel be able to handle a larger or smaller workload? Company G stated that their biggest challenge was forcing business units to understand that sourcing would be done centrally, and they did not have the latitude to source for themselves any longer. Interestingly, Company F said that the most difficult challenge they faced was getting the 'right things' on contract. They stated, "the people doing the contracting don't always understand some of the idiosyncrasy implementation issues... so they don't always get the right Ts and Cs on the contract." Two companies found their biggest resistance with top management. For Company C, the biggest challenge was getting executive "buy-in" into the overall sourcing strategy and flexible operations. The other answered that getting commitment from senior management was most difficult. Company D explained that basic administrative responsibilities and details were a challenge to manage, due to the volume and the limited resources available.

The change that most companies recognized as most successful was saving money through new sourcing practices. A few of the companies recognized the centralized commodity structure allowed them to save money. Company F summed it up by saying they get better contracts with better prices. Specifically, "...because we have so much more leverage, you're able to get a Cadillac vendor, the Cadillac product, for the Volkswagen price" (Company G, 2004).

Human Aspect

Qualitative Responses to Q16

What barriers, impediments, or challenges to change have you encountered, if any (i.e. policy, culture, skills, organizational structure, information, disincentives)?

As with any large change, employees are most resistant to the unknown. For many, job security and opportunities for promotion are very important issues. Company F commented, "…nobody wants to change" and if there "isn't a case for change, people won't change." In this case, any type of change will always present a challenge; therefore it all comes down to change management. Some of the other companies noted the importance of explaining the future direction for the company, various departments, and personnel to the employees and stakeholders upfront and early on. One company reported difficulty in reaching agreements within the new groups[5]. Cross-functional teams are an aspect of strategic sourcing that will likely take some getting used. Finally, timing issues were also identified as a challenge. Employees must be able to manage their time between their current workload and participation on the new sourcing team(s).

Qualitative Responses to Q17

How did you communicate the implementation plan to those involved in implementing the changes? More broadly throughout the organization? To suppliers?

Almost all companies stated that communication was a critical aspect to successful implementation of strategic souring. Company F explained that communication is very important to change management noting that their implementation plan included "relentless communication." Many of the companies interviewed used various communication channels to get the word out about the new changes, such as meetings, training classes, bulletin postings, memos, new regulations, presentations, and word of mouth (face-to-face). For some, news about the change was first given in small group meetings and was followed up through other media channels such as e-mail,

[5] Although only one company mentioned this specifically, we believe this was a challenge for all the companies interviewed

memorandums, or larger venues. Company F explained that they started communicating the implementation plan in the higher spend areas and later filtered it through the rest of the company.

Company C stated their suppliers were exposed to the new implementation plan through a global supplier symposium. Within this symposium and meetings thereafter, the company stressed expectations for the suppliers, the strategic nature of their future relationship, and the expected savings and value added to the company.

D. CHAPTER SUMMARY

This chapter began with a brief background of each of the companies interviewed. This was primarily done to set the stage and provide some line of reasoning for the varied responses to the interview questions. Strategic sourcing is more than a concept; it is a way of doing business. That said, it can be implemented in a number of ways and to differing degrees. In this study, the companies interviewed came from different industries, which may explain the different degrees to which they incorporated strategic sourcing into their organizations. Despite differences, patterns and trends emerged revealing possible lessons learned. Chapter V will discuss these lessons and best practices in more detail and how they fit into the Air Force's strategic sourcing plan. In addition, the following chapter will discuss the limitations of this research, and recommend further areas of study.

V. DISCUSSION

A. CHAPTER OVERVIEW

This chapter offers a discussion of the results presented in Chapter IV and how they compare with current Air Force practices. Immediately following are specific recommendations for action by the Air Force based on the comparison study. In an effort to make the findings and recommendations partial in this study, we will also present the findings of a similar study done by RAND entitled, Air Force Procurement Workforce Transformation Lessons From the Commercial Sector. In particular we will compare and contrast the two studies in regards to their recommendations for the Air Force. As a final note, we will explain limitations of our research and make recommendations for future study.

B. DISCUSSION OF RESULTS

Through the qualitative data collected, we were able to assess practices of commercial industries both before and after implementation of strategic sourcing in six key areas: job description, training, changes in manpower, company realignment, changes in procedures, and the human aspect. The patterns and best practices that emerged from the data were discussed in the previous chapter. In this chapter, however, we seek to compare these best practices to the current Air Force practices. The gap analysis between Air Force and industry is followed by our specific recommendations for action.

1. Job Description

As opposed to the straightforward approach of tactical buying, strategic purchasing requires an inherent understanding of purchasing power and the ability to apply this concept when making business decisions. Prior to strategic sourcing, purchasing actions were more reactive and done on an individual basis. This decentralized approach meant employees only needed the day-to-day contracting skills adequate for local contracts -- such as preparing and administering contract files. Employees are now expected to source commodities based on potential to cut costs and leverage spending for the entire organization, not just individual business units. This “big picture” mentality means that employees must be able to think strategically;

"…procurement personnel are moving quickly from undertaking mainly clerical duties to much more of a decision-making role" (Owens 293). With this new mindset, employees must also adapt an advanced set of job skills.

Under the duties and responsibilities of Air Force contracting personnel, there is no mention of members needing to think strategically, lead cross-functional teams, become business leaders, improve communication skills, or any other skills inherent to strategic sourcing. In fact, it is just the opposite. Almost all of the duties outlined in the job description for Air Force contracting personnel are tactical in nature and related to preparing and documenting contract files. If the Air Force is going to be successful in strategic sourcing, they may consider changing the job descriptions for contracting personnel involved with creating and implementing commodity council strategies. At a minimum they may include the following skills recognized as necessary to carry out strategic sourcing:

- Marketing and strategic analysis: buyers must be able to identify the best suppliers
- Information gathering and technical knowledge: buyers must become key players in the technical and commercial awareness of companies
- Product-development skills: buyers must initiate joint product and service development programs with suppliers
- Negotiation Skills and Partnership skills: buyers must possess good negotiation skills to maintain and monitor the relationship with suppliers

(Owens 293)

In this new skill set, personnel must also learn to work in a team setting. Cross-functional sourcing teams are inherent in strategic sourcing. Benefits of cross-functional teams include greater knowledge and skills together at one time, improved decision quality, new and innovative ways of doing things, and improved interfunctional communication. There are also many risks involved with using cross-functional teams: conflicting goals, low productivity norms, destructive confrontation, chronic conflict, and

failure to work together. To prevent these negative consequences, skill sets must include basic teaming skills. (Company C slides) Basics such as good communication and negotiation skills, can go a long way to avoid conflict. Being said, teaming skills are important for the individuals involved in making overarching policy and sourcing strategies for the commodity councils.

Under the new system these skills are necessary. Which poses a unique challenge for the Air Force--aligning these skills with the current and incoming workforce. Commercial companies can hire and fire employees at their discretion. This makes it relatively easy for them to rebuild a strategic workforce. A commercial company may also change the job requirements on its resume for incoming employees. By doing this, they assure all new employees have the necessary skills needed for successful strategic sourcing. As a last resort, private sector companies may also create or realign positions that require strategic skill sets. In this case, the company could hire new employees or look internally for leaders within the company. Commercial companies have a great deal of latitude when dealing with manpower.

On the other hand, the Air Force has little flexibility to adjust manpower for civilian and military personnel alike. The DoD civilian personnel system is a very structured system that has been described as “bureaucratic and cumbersome” (Anderson). In an address to the National Press Club, Defense Secretary Donald H. Rumsfeld, said the department is handcuffed by its reliance on an antiquated personnel system. Calling today's civilian personnel system "an industrial age organization struggling to perform in an information age world” (Garamone). Although the new DoD civilian personnel [6] system is expected to give “more flexible hiring and firing standards for managers,” (French) it will not be enough to make the sweeping changes the Air Forces may need. At this time, the Air Force does not have the flexibility and latitude to address this manpower issue.

[6] A pilot program for the National Security Personnel System will be launched by July 2005 (Anderson)

The same inflexibility is also evident on the military side. There is almost always opposition involved in releasing military personnel from their career fields. This is true whether an individual is leaving or trying to come into a new career field. To complicate matters further, the Air Force is not able to review the credentials of its incoming military personnel. In the commercial world, hiring an individual before making sure they are qualified for the job would be unheard of; however, this is how the Air Force builds its contracting workforce. At least twenty-four credit hours in business related courses, is all that is required for incoming officers to be assigned as contracting officers. Is this smart business? We would say no. Business related courses can mean almost anything and likely do not focus on aspects of strategic sourcing. Unless they major in some aspect of business, most college students do just the minimum. By making no effort to bring in officers with strategic skills or some better understanding of the business world, the Air Force is limiting its potential for success.

Similarly, the only criterion used to recruit its enlisted contracting personnel is their performance on the Armed Services Vocational Aptitude Battery (ASVAB). Under this current system, there is no way for Air Force officials to be sure that incoming military contracting personnel will have the skill sets required for strategic sourcing. In order to successfully implement strategic sourcing the Air Force must start with a strong foundation in its workforce. Because hiring and firing practices are not likely to change soon, the Air Force must train its incumbent and incoming workforce with the new skills.

2. Training

In implementing the new strategic sourcing practices, all the commercial companies developed or changed training programs for employees. Some companies focused on the overall concept behind strategic sourcing while others concentrated on the social and cultural aspects involved with change. The former group trained employees to maximize the value of strategic sourcing by teaching the fundamentals of supply chain management, while the others dealt with how people interact with one another and focused on working in team settings. The method of training varied between simple on-the-job training to a more formal classroom setting. In either case, the new training programs were vital to the success of implementing strategic sourcing.

As part of the continuous learning program, the Acquisition Professional Development Program (APDP), all Air Force contracting personnel must attend a series of classes at the Defense Acquisition University (DAU). The program requires all contracting personnel to get eighty hours of training every two years. Although the basics taught at these courses are important in establishing the foundation for contracting, they are too focused on tactical purchasing. They reflect the skill sets required for the current contracting position, which are not adequate for strategic sourcing. Any training program adopted by the Air Force must focus on developing strategic skills.

At this time, there is no formal training program for civilian or military contracting officers. Other than the training received from the APDP courses and office internal training programs, the majority of officers' training is done on-the-job (OJT) and sometimes by enlisted personnel. Drawing from personal experience, this is especially true in operational contracting offices. Unlike officers, enlisted personnel have a formal training program in place that is monitored very closely. To be promoted, enlisted personnel must take and pass a series of tests based on material from their training manuals, namely the Career Development Courses (CDCs). Promotion as an incentive leads to the development of sharp enlisted troops very early on, which can create a disparity between the enlisted and officers. For example, the officer in the role as a student may foster an uncomfortable situation and lead to problems in the future.

For OJT to be effective, a plan must be in place. An OJT plan should include at a minimum, a set of learning objectives, the number of hours allocated to the learning objectives, an estimated completion date, and the method by which the training will be evaluated. This last part is especially important. A successful OJT program requires that supervisors assign a coach to each employee involved in OJT; it is the coach's responsibility to plan the training and conduct it effectively (Department of Interior University). Although there may be programs specific to individual contracting or system program offices, at this time we are not aware of a recognized best practice for OJT in the Air Force.

An integrated approach that includes training on the overall concept and the human element of change is very important. The latter is especially important because of

the military's organizational subcultures. Edgar Schein, a professor of Management at MIT and one of the founders of organizational psychology makes the argument that you must understand new environment and culture before change or observation can be made (Nellen). In the Air Force there are three separate cultures; the civilian, officer, and enlisted cultures. Although all are members within the same service, each culture has its own system of shared beliefs, values, assumptions, and "normal behaviors" (norms) as a group (toolpack). Training must address the individual needs and concerns of each culture and take into consideration how each may be affected by the new practices.

Suppliers also require training on strategic sourcing and its collaborative approach to purchasing. Many companies conduct training through supplier symposiums, which share new strategic visions for sourcing and promote supplier collaboration in identifying cost savings. The symposiums also allow for increased supplier participation in developing strategies and forecast sharing and foster more open communication. The Air Force has successfully implemented this commercial best practice. The Air Force Information Technology Commodity Council currently hosts its annual Air Force Information Technology Conference (AFITC). At these symposiums, suppliers and Air Force officials discuss future procurement strategies and opportunities to further leverage spending on IT products and services.

3. Change in Manpower

The number of employees either decreased or remained the same following the companies' adoption of strategic sourcing. However, the Air Force is not able to change personnel strengths as easily as the commercial sector. As mentioned, the DoD civilian personnel system makes it very difficult to remove a civilian from a GS position. Opposition is also encountered in releasing military personnel (cross-training) from career fields. Because of this resistance, the Air Force is unable to adjust its manpower to accurately reflect strategic sourcing.[7] If this issue is not addressed, military and civilian assets will remain in dead-end positions and the Air Force will continue to misappropriate its most valuable assets.

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[6] The Air Force must also consider end-strength limits; personnel added to one career field would most likely be removed from another.

Additionally, workforce focus has shifted from decentralized transactional actions to a centralized strategic mindset. Now, employees are required to have an inherent understanding of strategic sourcing and recognize opportunities to reduce spend. Because of this, companies have upgraded positions to reflect these new skill sets. Again however, the flexibility to upgrade positions

4. Change in Procedures

The most fundamental change was reduction in the functional aspect of the purchasing process. The new purchasing process became more strategic and formalized and required fewer actions. Reducing the number of purchasing actions is a very important aspect of strategic sourcing for the Air Force. The 'ultimate goal' for Air Force procurement would allow 'Joe' in the field to make a purchase using his Personal Data Assistant (PDA) through AFazon, the Air Force's "on-line store" (Bowman 1)." This vision begins by streamlining processes in base level contracting offices and exploiting technology for e-procurement.

The Federal Acquisition Regulation (FAR) contains stringent directives and procedures that must be followed for all Government acquisitions. Therefore, eliminating or ignoring procedures to reduce the number of purchasing actions is not feasible. The Air Force is hoping to address this hurdle through its commodity councils. Commodity councils will put in place standardized blanket contracts that are consistent with the requirements of the FAR. They will also help to drive standardization throughout the Air Force. For example, to increase interoperability amongst commands, the Air Force has set specific guidelines detailing what IT equipment can be bought, as part of the AFITCC strategy. By implementing standardized strategies Air Force-wide, the end-user is able to purchase an item that adheres to both FAR and Air Force standards. Presently, all IT equipment is purchased through AFWay, removing the contracting office from the process almost entirely. Aside from approval requirements, the AFITCC has significantly reduced the number of actions required for the purchase of IT equipment. Although early in its stages, the advent of commodity councils may get the Air Force closer to their ultimate goal sooner than expected.

Some companies reported increased flexibility along with relaxing documentation and approval requirements. Individuals only have to convince top executives that their ideas are in the best interest of the company and should be supported. This amount of flexibility is not possible for the Air Force because of the mandatory procedures and regulations of the FAR. Contracting personnel are required to follow rigid guidelines with numerous approval steps. In addition, personnel are taught the importance of documentation early in their career, "…document everything!"

In the midst of these stringent guidelilnes, the Government has gone to great lengths to inject flexibility into the acquisition process. For example, the Federal Acquisition Streamlining Act of 1994 "…repealed or substantially modified more than 225 provisions of law to reduce paperwork burdens, facilitate the acquisition of commercial products, enhance the use of simplified procedures…and improve the efficiency of the laws governing the procurement of goods and services" (SBA). In addition, FAR 1.102-4 states, "If a policy or procedure… is not specifically addressed in the FAR, … Government members of the Team should not assume it is prohibited….absence of direction should be interpreted as permitting the Team to innovate and use sound business judgment that is otherwise consistent with law and within the limits of their authority." Despite these efforts to increase flexibility, the Air Force

Commercial companies are not required to adhere to the FAR, except for those involved in Government contracting. There is no need to establish price "fair and reasonable" or consider socio-economic programs prior to making an award. A commercial company is able to procure end products from any supplier. This amount of flexibility and latitude is unparalleled in the Government. For this reason, the Air Force will never be as streamlined as its commercial counterparts.

5. Company/Division Realignment

Before strategic sourcing, the majority of the companies described their purchasing organizations as decentralized with the bulk of processes being tactical and functional in nature. Aside from the AFITCC, this is how the Air Force currently operates. Products are purchased on an individual basis in response to short-term

organizational requirements. In addition, contracting offices follow organization-specific procedures that further decentralize the contracting process.

Following strategic sourcing, the firms' purchasing organizational structure became more centralized and generally involved some type of sourcing team. Purchasing organizations were matrixed with various program offices and top management. Still others were divided into separate divisions for tactical purchasing and strategy development. In either case, both have elements of centralized strategy and decentralized execution. Throughout the commercial industry, the benefit of a hybrid structure with elements of both centralization and decentralization is recognized as the most efficient and effective structure (Owens 292).

The Air Force hopes to incorporate elements of this hybrid structure into its architecture for strategic sourcing through commodity councils. Commodity councils are the centralized component of the hybrid structure. They establish Air Force-wide policies and strategies and set up large contract vehicles, such as Indefinite-Delivery-Indefinite-Quantity contracts. The element of decentralization takes place at the local level, when contracting personnel or the end user place an order from the pre-established contracts.

Air Force operational organizations may need to be realigned following the complete implementation of commodity councils. At this point, only the AFITCC has come on-line so the total affect is still unknown. The Air Force may need to realign based on the level of decentralization and the number of procurement actions that remain. This has frequently meant a decrease in personnel in industry; although the Air Force is likely to encounter much resistance. With the push to significantly reduce purchasing actions and put procurement in the hands of the end user; many have therefore raised the question, is the contracting career field slowly being phased out?

6. Human Aspect

Many companies reported that dealing with people was their greatest challenge. In general, people are resistant to change, especially when job security and promotions are involved. It is therefore difficult to implement change when people feel threatened by the unknown. This is especially true when change involves advancements in technology

or processes. Many times, people only know their job by the sequence of keystrokes on a keyboard. A new system removes this "security blanket." They can no longer rely on a sequence of routine actions and instead must learn the ins and outs of the job.

People are an organizations greatest asset. Because of this, companies and the Air Force alike, have gone to great lengths to educate their employees on strategic sourcing--especially how it will affect them. It is important that the Air Force continually remind personal of the 'end-state' and why it is important that they get there. Because employees are most concerned with job security, the Air Force must explain that strategic sourcing is not the end of contracting (for the moment anyway). They must also describe the changes involved and the future direction of the individual contracting offices or SPOs. The Air Force may also benefit by making personnel aware of the changes early on and incorporating them into some aspect of the decision-making process. People are always more receptive to change if they feel there is something to be gained or lost.

Relentless communication will be a critical aspect of making strategic sourcing a success. Officials plan on communicating the Air Force vision of procurement through various media channels such as, symposiums, mandatory briefings, official policy letters, email, and word of mouth. However, the primary source will be web based. Communication through email is virtually free, can be updated quickly, fosters sharing of information between communities, and gives the opportunity for continuous feedback.

C. RECOMMENDATIONS FOR THE AIR FORCE

Based on data collected from the interviews, literature review, and personal experience we would like to offer recommendations for action that the Air Force may consider in its efforts to implement strategic sourcing.

The new strategic skills required for employees will have a direct impact on employee training. This point was reinforced through the interviews. To adopt the new skill sets, all the companies changed their employee training programs to reflect the new strategy. Although we realize that contracting personnel at the decentralized level will not be involved with developing strategies, we feel it is important that all personnel have some understanding of the strategic sourcing concept. A basic understanding of strategic sourcing is also important because of the nature of the military. Military personnel are

usually rotated every two to three years and may find themselves assigned to a commodity council someday.

As discussed, the Air Force has no way to assure incoming enlisted personnel have some knowledge of strategic sourcing at the entry level. However, the Air Force may consider incorporating strategic sourcing concepts into the enlisted Career Development Courses, in addition to making them part of the required curriculum at the Community College of the Air Force (CCAF).[8] We would also recommend more stringent requirements for incoming officers and civilian personnel. Instead of requiring 24 general business credit hours, the Air Force may consider mandating classes specific to supply chain management, global procurement, strategic sourcing, etc. Another option would require that incoming officers have a degree in business prior to being assigned contracting officers. We also believe the Air Force should strongly consider making these strategic skills part of the job qualifications for civilian personnel. Attempting to bring in personnel at the entry level with these skill sets will minimize the amount of training required and makes for better informed and smarter buyers.

Training is directly related to the new skill sets required on all levels. As we mentioned, we believe all contracting personnel should have some basic understanding of strategic sourcing. In this case, the Air Force may consider incorporating a series of strategic sourcing courses offered at DAU as part of the APDP Level 1, 2, and 3 certification requirement[9]. However, as its name suggests, the Defense Acquisition University, serves all members of the acquisition and contracting community amongst all the services. Although other members from other services are likely to benefit from the classes, the Air Force should not rely solely on DAU to train its personnel in strategic sourcing. Instead, the Air Force may consider creating a class focused on strategic sourcing at the Air Force Institute of Technology (AFIT). Presently the School of System and Logistics under AFIT holds courses catered to Air Force personnel so the

[8] The Community College of the Air Force (CCAF) is one of several federally chartered degree-granting institutions; however, it is the only one serving enlisted personnel. The college awards the associate in applied science degree after a student successfully completes a degree program designed for an Air Force specialty.

[9] Acquisition and contracting personnel receive certifications pending completion of APDP classes

addition of strategic sourcing in its curriculum would not be very hard. This class would be designed specifically for personnel that are Level 3 certified and are likely to work on strategy development. Even still, the Air Force may also want to open the opportunity to noncontracting personnel important to the acquisition process in the Air Force to attend these classes. This would enforce a cross-functional team environment and make other stakeholders aware of the new practices. We would also like to point out that although we recognized the benefits of OJT, we do not think it is best suited for developing strategic skill sets.

There is also a causal relationship between the change in procedures, manpower, and realignment. A change in procedures will directly impact both manpower and realignment. Based on the data collected and the shared experiences of the companies, we predict that the number of contracting actions will decrease following strategic sourcing. Less work means less people. In this case, the Air Force may want to consider decreasing the number of coded positions in contracting. This point was reaffirmed in a RAND study, "The Air Force strategy for contracting anticipates a smaller, more highly skilled contracting labor force" (Camm 240). As discussed, we realize the difficulties in removing or adding coded positions; as such this may not be an option for the Air Force at this time.

All employees will be directly affected by strategic sourcing. Because of this the Air Force should make every effort to make employees aware of these sweeping changes upfront and early on. To do this, we recommend that the Air Force utilize the concept of change management. Change management is an approach to initiating and effecting change in individuals, teams and organizations. This approach also uses a change agent to get the word across. According to a SixSigma site, a change agent is a "… person who leads a change project or business-wide initiative by defining, researching, planning, building business support and carefully selecting volunteers to be part of a change team." (Bhardwaj). In spreading the word, we also suggest that they tailor different briefs for different audiences. Noncontracting personnel will likely be affected by strategic sourcing practices as well.

D. COMPARISON WITH RAND STUDY

Close to the end of our research, we found a study similar to our own, conducted by RAND Project AIR FORCE (PAF) entitled, Air Force Procurement Workforce Transformation Lessons From the Commercial Sector (published in fall of 2004). However, we intentionally waited until our research had been completed before reading the document. This minimized the possibility of bias in our research. In addition, it gave us a benchmark to compare our results and findings. If nothing more, it provided alternate solutions and ideas and made for a more complete report on the subject matter. Following is a comparison between the two studies.

The RAND study was commissioned by SAF/AQC and focused on human-capital-related aspects of the procurement transformation; primarily, in regards to the implementation of commodity councils in the Air Force (Ausink, iii). In the study, PAF was expected to 1) identify skill sets needed by Air Force procurement personnel to successfully implement commodity councils and identify any current gaps in these skills 2) address any training needs and identify examples of commercial training programs and courses and 3) develop a portfolio of performance metrics that will facilitate the evaluation of progress. The majority of RAND's research was taken from various literature, Air Force, DoD, and commercial sector sources (Ausink, xv-xvi).

The two common areas are skill sets and training. PAF recognized the importance of new skill sets for strategic sourcing and commodity council members. To develop their list, they consulted various literature sources, conducted interviews with five commercial companies, and referenced the Certified Purchasing Manager (CPM) exam. Their list broke the skills into six general categories: core purchasing and supply management, contracting, analytical and technical, interpersonal, basic business, and computer skills. Each category was further broken down into *general* and *specific* skills (Ausink, 10-15). For comparison purposes, these skills closely resemble the skills identified in our study.

Skill	Our Study	RAND Study
Effective participation in a team environment	X	X
Interpersonal communication	X	X
Understanding general business concepts	X	X
Ability to see the big picture	X	X
Knowledge of Industry	X	X
Strategic Thinking	X	X
Negotiation Skills	X	X
Understanding the entire contract process	X	X

Figure 5. Comparison of Recognized Strategic Skills (From: Ausink, 61-64).

Other important skills listed in the RAND study that were not found in our study, include use of e-commerce tools, conflict resolution, project management, time management, multitasking, forecasting skills, analytical thinking, and critical reasoning.

Training was another shared area. PAF found that most companies agreed training would have to change to reflect the evolving work environment. This meant making training cross-functional with an emphasis on process management. PAF also found that employee training programs varied among the different companies. One company focused on in-house training because of the difficulty of hiring fully trained procurement personnel. The second company now requires certifications from the American Production and Inventory Control Society (APICS) and the National Association of Purchasing Management (NAPM, now ISM) as part of their training program. Even still, the employees are expected to continue with other aspects of their training and education after certification. A third company made efforts to implement a comprehensive training program for supply management. The training was extended to procurement personnel, executives, sourcing teams, supplier development personnel, and commodity team leaders. Courses included strategic sourcing, supplier rationalization, cost analysis and management, negotiation training, benchmarking, and ethics. The fourth company does not use web-based training. Instead, all personnel attend classroom sessions with training conducted by university professors. Cross-training is also encouraged at company four through OJT and mentorship. The last company encourages CPM training and certification. It also values web-based and classroom training, but sees OJT with a subject-matter expert as the most valuable form of training (Ausink, 21-30). In their gap analysis, PAF acknowledged that the two primary training sources for all

professional acquisition personnel are DAU and AFIT. Both studies recognize that these schoolhouses must revamp their training program by incorporating identified strategic skills into their curriculum.

Our findings regarding training were very similar to the RAND study. Our research revealed that commercial companies either developed or changed their training programs to incorporate strategic sourcing. The type of training offered ranged from OJT to classroom instruction, in addition to professional certifications. Many companies encouraged continuous learning and refresher courses were made available. Course topics ranged from broad areas to specific skill sets. Many companies also trained their employees in communication skills, the buying process, and basic people skills such as working in teams and relating to different personality types.

Project Air Force made several recommendations for the Air Force that agreed with our results. For one, DAU should not cater specifically to the Air Force's needs for strategic skill sets. DAU must serve acquisition personnel in all branches of the service. Because of this, the Air Force should not rely on DAU to train its personnel in strategic sourcing but should create a separate training program, possibly within AFIT. PAF also suggested converting AFIT's master's program for strategic purchasing into a series of short courses, similar to those at DAU. Alternatively, instructors could travel and conduct on-site training to Air Force personnel. PAF's recommendation to restructure the APDP certification process is also consistent with our study (allowing more cross-functional classes). At this time, personnel who want to take classes outside of their career field must wait for an available slot and have little to no priority.

E. LIMITATIONS/AREAS OF CONCERN

All studies are conducted within some type of boundaries and with inherent limitations. For the purposes of this study we only identified those limitations that were likely to have had a direct impact on our study. Time is a constraint in almost all research efforts, including our own. Our masters program set the first time constraint. Members from SAF/AQC who relied upon our completion of the interviews imposed a second time constraint. With the time remaining, we were only able to complete interviews with nine companies. Although it is unlikely we could ever account for all

diversity within industry, the time constraint limited our findings even further. Another time constraint lies with the companies interviewed. Business leaders are very busy and do not have much time for interviews.

Another area of concern was the difference in implementing a commodity council approach versus other strategic sourcing approaches. Taking into account that only a limited number of commercial companies had implemented a commodity council or commodity team approach, we opened our research to all strategic sourcing initiatives. Because the Air Force is taking a commodity council approach, most of our questions were geared specifically to commodity councils. This made it more difficult for those companies who had not implemented this kind of strategic sourcing method to answer some of the interview questions. This is apparent in many of the transcripts. Those participants more familiar and comfortable discussing commodity councils, or a similar approach, tended to expound upon their answers, many times jumping off in tangents. Additionally, some of the interviewees were enthusiastic about their commodity councils or strategic sourcing initiative, and required little prompting to give examples and lessons learned. In these particular cases, it was easy for the interviewers to ask follow up or clarification questions. Although these follow up questions gave a clearer understanding of the question at hand, standardizing the interviews for analysis was more difficult.

A third party was chosen to transcribe most of the phone interview tapes. While this was an advantage as far as time, it also proved to be a disadvantage in some ways. Because the transcriber was not familiar with the subject matter, minor discrepancies were found in some of the transcripts. For the most part, the transcriber did not understand the terminology used by the interviewees. Second, since all of the interviews were accomplished via teleconference, there were some areas that were considered inaudible or heard incorrectly by the transcriber leading to further discrepancies. Due to these two disadvantages and the potential for error, the transcriptions had to be scrubbed.

While compiling data for Chapter IV, it was necessary to draw from the entire transcript for answers to each specific question. This was because some of the interview questions had elements of multiple sections. For example, similar responses were expected for questions regarding skill sets and training. The intended response to one

question could inadvertently answer other questions. There were also instances where clarification questions were asked and a summary response was given, which meant answers to questions upfront may have been given at any point in the interview. In Chapter Four, all relevant responses, regardless of where they appeared in the transcripts were mentioned under their respective section. Furthermore, because an idea may not have been mentioned or emphasized by the representative of a company, does not mean it was less important relative to the other companies.

The last limitation noted is the lack of standardization inherent to this method of research. Open-ended interviews are subject to one of the most unstable factors in all experiments and studies, people. Individuals are unique in every sense of the word. Because of this, people will almost always answer the same question differently in an open-ended interview. The same is true for representatives of the same company. A different company representative may have answered the questions differently.

F. FUTURE RESEARCH

As pioneers of commodity councils within the DoD, the Air Force is facing many unknowns. This study hopes to shed light on some of those. Still, there are many issues related to commodity councils and strategic sourcing in the Air Force that require further research. One topic focuses on the possible merger of the supply and contracting career fields. Research revealed that the purchasing and supply chain management functions in commercial companies are either combined or co-located. Aspects of this study could reveal benefits, potential cost savings, or problems with combining the two career fields.

Competition within commodity council purchasing is another area for study, primarily, whether commodity councils limit “full and open” competition. There are concerns that the council’s strategy to develop an approved and limited supplier pool with only a few suppliers severely limits competition (how the suppliers are chosen and how often the pool is replenished). Some also contend that commodity councils and GSA schedules essentially do the same thing. They both deal with limited suppliers in establishing blanket contracts and provide a simplified method of purchasing products.

A third area for potential research is the feasibility of commodity councils at a DoD level. Based on savings experienced through one commodity council in only one

service, leveraging spending on a DoD level could save hundreds of millions if not billions of dollars. However, there are many potential problems that stand out with this initiative. How will funding be collected from the services? Where will the realized savings go? Who will head the commodity teams?

With the advent of commodity councils the "passionate user" no longer has a door to knock down. This begs the question, "How are the commodity councils administered?" Throughout the study it was noted that none of the strategic skills involved contract administration. Many times contract administration is neglected, believing that once an award has been made, the contract is essentially done. This is not the case. Increased centralization, will distance the user further from the administrator.

With the shift to performance-based contracts, 'service councils' may be the next step for Air Force strategic sourcing. However, these councils would look very different from their predecessors. Service contracts are often more complex and require a great deal more detail. The strategic skills may stay the same, but training specific to aspects of service contracting would be required. Future research may also assess if there is a difference in skills and training among the different commodity councils. Commodity councils sourcing more complex items may require a different set of skills.

APPENDIX A. LETTERS OF ENDORSEMENT FROM SAF/AQC AND THE DEAN OF THE GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY, NAVAL POSTGRADUATESCHOOL

02/19/04 THU 14:17 FAX 703 588 7912 SAF/AQCX 003

DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC

Office Of The Assistant Secretary

SAF/AQC
1060 Air Force Pentagon
Washington, DC 20330-1060

17 FEB 2004

Professor Marshall Engelbeck
Naval Postgraduate School
Mail Code: GB/Re
Graduate School of Business and Public Policy
Monterey, CA 93943

Dear Professor Englebeck

We would like the Naval Postgraduate School's (NPS) assistance in conducting an improvement study, which identifies the organizational design and skill sets required for future commodity councils in the USAF contracting community. By 2005, the USAF plans to implement a "commodity council" structure in order to corporately leverage its spend. In order to complete this tasking, we need NPS's assistance in identifying lessons learned and best practices from commercial firms that have implemented commodity councils. Specifically we require the following information related to the implementation of commercial sector commodity councils: 1) organizational structure and design changes, 2) an analysis of changes in skill sets required of the commodity council workforce, 3) the training required to bridge the gaps in skill sets and 4) an analysis of incentives utilized to encourage change in purchasing organization behavior.

We hope the firms you select for this study will be cooperative so that we may all pursue our goal of leveraging taxpayer dollars to get the most bang for the buck that is possible. The point of contact on my staff is Lt Col Tim Reed, SAF/AQCA. He can be reached at DSN 425-7061 or (703) 588-7061, and is available to answer any questions you, your students, or the firms selected to participate in the study may have.

We appreciate your consideration on this matter and look forward to working with you in the near future.

DAN E. BOWMAN,
Division Chief,
Air Force Procurement Transformation

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CA 93943-5000

29 February 2004

Naval Postgraduate School
Dean of Graduate School of Business and Public Policy
Dr. Douglas A. Brook
555 Dyer Rd.
Monterey, CA 93943

Dear

While at the Naval Postgraduate School, our students are required to complete an in-depth research project that serves as the capstone of their studies and is relevant to their respective service, Department of Defense and national security interests. Your organization has been identified by the United States Air Force and the Naval Postgraduate School as having successfully implemented strategic procurement practices in a shift from tactical to strategic purchasing. In light of this, we are asking for your assistance in conducting a study for the Air Force regarding the implementation of "commodity councils." The objective of the study, which is being led by two students of the Graduate School of Business and Public Policy, is to identify the organizational design and skill sets needed to implement strategic purchasing.

As you are aware commodity councils develop enterprise-wide procurement strategies to integrate customers and suppliers, and are responsible for driving commonality and standardization. By 2005, the USAF plans to implement a commodity council structure throughout the entire Air Force in order to leverage its' buying power and in keeping with good stewardship of the tax dollar. To complete this task, we are asking for your assistance via interview in identifying lessons learned and best practices from your management improvement practices or strategized purchasing procedures. More specifically the study team is concentrating its' efforts on the following information related to the implementation of strategic sourcing: **1)** organizational structure and design changes **2)** an analysis of changes in skill sets required of the workforce preceding and following implementation, **3)** the training required to bridge the gaps in skill sets and **4)** an analysis of incentives utilized to encourage change in the purchasing organization's behavior.

We appreciate your time and consideration on this matter. If there are any questions and/or concerns, points of contacts for this study are 1Lt Eva Sanchez, USAF and 1Lt Beth Rairigh, USAF. They can be reached at (831) 393-9249 or by email at ersanche@nps.navy.mil or bmrairig@nps.navy.mil.

We look forward to working with you in the near future.

//Signed//

Dr. Douglas A. Brook
Dean, Graduate School of Business and Public Policy
Naval Postgraduate School

APPENDIX B. INTERVIEW QUESTIONS FOR INDUSTRY

**Please note that any material gathered for the purposes of this study will be held in-house and only used in an academic environment. Personnel names and identifiers will not be disclosed in research.

Job Description

1. What job skills were required for purchasing personnel before implementation of the Commodity Council?
2. What skills are required now (after implementation of the Commodity Council)?

Training

1. What training was required after implementation of Commodity Council(s)?
2. What training was eliminated, if any, after implementation of the Commodity Council?
3. Did your suppliers have the skills/expertise needed to participate in strategic sourcing, implement continuous improvement, etc.? If not, did you provide training for them?

Change in Manpower

1. How many employees did you have dedicated to contracting/acquisition procedures (e.g. purchasing, administration, closeout, etc.) prior to Commodity Council implementation?
2. How many employees do you now have dedicated to contracting/acquisition procedures (e.g. purchasing, administration, closeout, etc.)?
3. Did you upgrade any purchasing positions to reflect the more sophisticated skill levels required to implement strategic sourcing?
4. Based on a new desired skill set, was there a great desire/need to hire new employees?

Company/Division Realignment

1. How would you describe your former organizational structure (e.g. wiring diagram, organizational chart, matrix, etc.) prior to Commodity Council implementation?
2. How would you describe your organizational structure (e.g. wiring diagram, organizational chart, matrix, etc.) following Commodity Council implementation?
3. Did your implementation plan include organizational changes, i.e. centralization/decentralization, sourcing teams focused on specific product groups? If so, how did the organizational changes map to your strategic goals for purchasing changes?

Change in Procedures

1. How would you describe your former purchasing practices (i.e. functional purchasing processes, focus on pre-award contract negotiation, short-term contracts, smaller contracts, intensive oversight, etc.)? What new practices were adopted following Commodity Council implementation? Who determined the priorities and scope for these changes?
2. What are the most significant and difficult changes you have implemented? Please explain.
3. What changes have been the most successful? What were your greatest challenges?

Human Aspect

1. What barriers, impediments, or challenges to change have you encountered, if any (i.e. policy, culture, skills, organizational structure, information, disincentives)?
2. How did you communicate the implementation plan to those involved in implementing the changes? More broadly throughout the organization? To suppliers?

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