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An Investigation of the Contracting Officer Career Pyramid

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AN INVESTIGATION OF THE CONTRACTING OFFICER CAREER PYRAMID

THESIS

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Abstract

Air Force contracting officers rely on published guidance to assist in establishing their career objectives. This thesis uses empirical data to evaluate the published Air Force career guidance. The data set is comprised of complete duty histories from all active duty colonels, colonel selects, and general officers in the contracting career field. The guidance implies a career path to an exceptional career but provides no empirical validation.

This thesis follows a rigorous procedure to objectively evaluate the Air Force guidance. The guidance is translated into 18 research questions based on its main tenets. Each duty occurrence is categorized by type of position, associated MAJCOM, staff category, education level, career broadening, and leadership level. The results suggest that officers in the data set exhibit conformance to the latter intervals of the comprehensive career guidance. However, conformance with individual tenants of the guidance varies depending on when the officer came into the contracting career field and how the duty occurrences were categorized.

AN INVESTIGATION OF THE CONTRACTING OFFICER CAREER PYRAMID

I. Introduction

General Issue

The United States Air Force has spent considerable time and effort creating and firmly establishing an officer career management system. One of the outputs resulting from this time and effort is Air Force Pamphlet (AFPAM) 36-2630, Officer Career Path Guide. This guide is used as the basis for officer career progression in the Air Force. Its central theme is that the individual's awareness of career development planning is essential to maximize his or her effectiveness in performing current and future duties. The purpose, as stated in the guide, is to stimulate officers to pursue planned careers within specified career specialties, thus insuring that a sufficient number of highly qualified and capable officers are available to assume positions of ever increasing responsibility and scope within those specialties (Air Force, 1995).

Background

In recent years, a great deal of attention has been focused on the federal procurement work force. It is necessary that highly qualified, well-trained personnel exercise sound judgment with regard to the quality, efficiency, and economy with which federal procurement actions are initiated. The USAF contracting officer is a key link in the overall process by which federal procurement objectives are accomplished. The Air Force needs to attract, qualify, and retain capable contracting officers with the ability to

act with sound judgment. If it is to do so, it must present a visible and viable career progression pattern which cuts across career specialty lines and which is clearly identifiable and understandable to those officers early in their careers.

Current Guidance. The Officer Career Path Guide (incorporated in Appendices A and B) advocates a distinct path with unique characteristics for each specialty in the line officer corps and suggests there are distinct characteristics that are normally included in an exceptional career. An exceptional career for the purposes of this paper is defined as the promotion to the grade of Colonel (O-6) or higher. The Career Path Guide implies that the proper mix of professional military education (PME), military training, formal education, assignments (including a properly timed career broadening assignment), and the optimum time phasing of each is the recipe for an exceptional career. However, an individual must be able to combine their ability, aggressiveness, and personal aspirations with those organizational channels, policies, and programs that are designed to assist them in their career progression. Finally, the guidance goes on to state, "Officers...need help and guidance to steer them alone the path that's best for them, and best for the Air Force" (Air Force, 1995: 1.1).

Factors Influencing Career Outcome. Duty history is only one of the many factors contributing to officer progression and promotion. Previous studies into career outcome suggest some additional factors (Leighton, 2000: 2-3). Figure 1 graphically displays these additional factors. In addition to duty history, the different opportunities available to an officer can affect the career outcome. Without ample opportunity for professional development and leadership experiences, an officer's career potential may be diminished. Also, a key aspect in the screening and promotion of senior officers is

their performance in their past positions. Therefore, regardless of duty history or opportunity, performance is a critical factor in career outcome. Finally, select officers, by virtue of their position and association with senior Air Force leaders, are able to secure unofficial mentorship. In other words, their close proximity to senior executives may have an effect on career outcome, a.k.a. *who you know, not what you know*.

The Leighton study did not include education as a factor that influences career outcome. For the purposes of this study, education will be added to the Leighton model as an additional factor. Support for this addition can be found again in AFPAM 36-230, which states, "All officers should appreciate the need for continuing professional military education (PME) and academic education throughout their careers. Advanced education should enhance duty performance, and technical competence" (Air Force, 1995: 1.1.2).

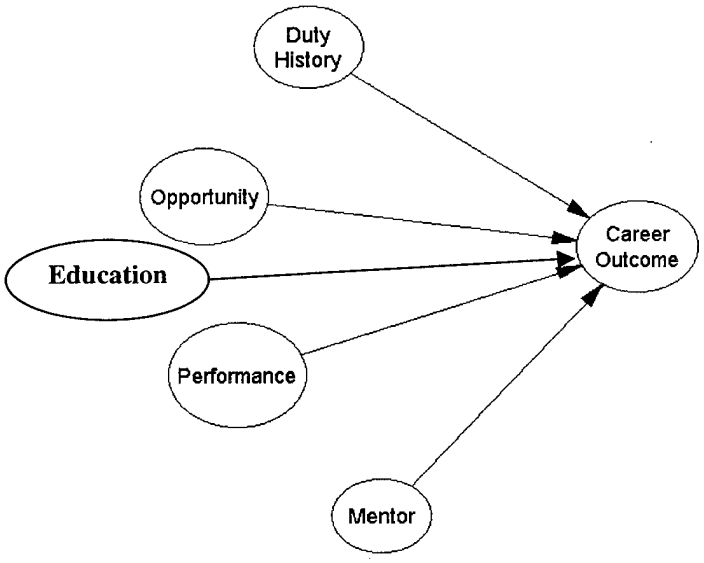


Figure 1. Factors Influencing Officer Career Outcome (Adapted from Leighton, 2000: 3)

Focus for Study. The focus for this research is on officer duty history for a couple of reasons. First, the Officer Career Path Guide suggests specific duty occurrences that are essential building blocks for promotion to senior contracting positions (Air Force, 1995: 4.12.4.2). Secondly, past research has suggested that certain duty occurrences can be determinants of an exceptional career. For example, one study found that PME, civilian educational level, and command assignments were determinants of exceptional career (Haynes and Herbert, 1977: 61).

Therefore, this study is limited to the duty histories of an identified population of officers with a common career outcome. The duty histories are examined in relation to the accepted Air Force career guidance. The Air Force guidance states that there is no "school approved solution" for grooming officers and that officers should "bloom where planted and the rest should fall into place" (Air Force, 1995: 5.12). This emphasizes the leap of faith required to follow this guidance and highlights the need for research on the topic of effective career experience for contracting officers. This analysis empirically investigates the Air Force guidance and can provide credence to the assertion that there is no "school approved solution".

Current Initiatives. It should be noted that while this research was underway, an additional initiative was begun within SAF/AQC to update the career pyramid and career guidance in accordance with current trends and initiatives within the acquisition workforce. While this research won't in any way address these new initiatives, it will address the previous guidance with respect to the duty histories and careers of those officers who fell under the auspice of the previous guidance.

Problem Statement

Current Air Force contracting officer career guidance lacks empirical support.

Research Objectives

The objective of this research is to evaluate the existing Air Force contracting officer career guidance provided in AFPAM 36-2630. The results of the analysis are used to evaluate the Air Force guidance and provide some recommendations based on workplace motivational theories.

Research Methodology

The fundamental methodology for this research involves categorizing each separate duty occurrence for each officer in the population according to the coding scheme developed in Chapter 3. The coded duty histories are chronologically entered into a Microsoft Excel® spreadsheet and analyzed to evaluate the Air Force contracting officer career guidance. Actual data from current 64XX officers with the rank of O-6 and above will be compared to the career pyramid in AFPAM 36-2630.

The formatted data used in this research deals mainly with categorical analysis. The precise method used for each research question results from the type of questions and the focus of the Air Force Guidance in that area. In this manner, the research questions are direct and the methods used to answer them are analysis of proportions, trends, and graphical presentations.

Scope of Research

This research is confined to one of the five factors presented in Figure 1--Duty History. Additionally, there are a couple of factors further limiting the applicability of this research. First, the data source impacts the reliability and level of information available. That is, Officer Career Briefs will contain all the necessary duty history and education information, however the details of actual work experience will be missiong. Secondly, the manipulation of the data affects the amount of error that is introduced into the study. This will be discussed in further detail in Chapter 3.

Assumptions. The following assumptions were derived from chapter three:

1. The information obtained from the personnel records accurately portrays the careers researched.

2. The characteristics or variables considered in this research effort adequately reflect an officer's career progression.

Limitations of Data

1. Any determinants of exceptional careers identified in this study are limited to the populations selected for this study.

2. This study is limited to a specific time period for contracting officers only and cannot be generalized to other applications.

3. The use of Officer Performance Reports as a variable for measuring performance was unavailable due to the sensitive nature of the information contained in an OPR.

4. The duty history reports of Lieutenant Colonels who failed to get promoted to O-6 was unavailable due AFPC restrictions.

Relevance

The topic of this research is appropriate by virtue of the current state of the contracting career field. As the officer manning and duty opportunities become more and more scarce, the management of these resources becomes more crucial to the future of the Air Force. Accordingly, this study investigates a specific area of career management that is critical to the development of the contracting officer corps: duty experience. Additionally, this study is grounded in empirical data, established theory, and sound data analysis contributing to the credibility of the results.

Career Management. The demands placed on the contracting career field are taking their toll on the available pool of senior leaders. It is important that career guidance and career outcome be closely related so that the Air Force can accurately communicate the experience required to grow effective leaders and commanders. This research evaluates the overall current career guidance to include specific tenets such as breadth and depth, balance, MAJCOM experience, career broadening, staff positions, and officer education. The results have the potential to support or generate revisions to the existing Air Force contracting officer career guidance.

Outline of Thesis

Chapter 2, Literature Review, introduces the Air Force and DoD guidance with respect to the Contracting Officer career to include the Career Pyramid. Additional historical military literature is reviewed to construct a background of career expectations.

Chapter 3, Methodology, begins with the development of research questions. These questions translate into the guidance introduced in Chapter 2, and become the basis

for the analysis in Chapter 4. The final portion of the chapter deals with the categorization of the duty history data into a testable format and an explanation of the methods used for the categorization.

Chapter 4, Findings and Analysis, presents the results of the analysis. The research questions developed in Chapter 3 are addressed and analyzed to provide the basis for the conclusions and recommendations made in Chapter 5.

Chapter 5, Conclusions and Recommendations, translates the findings in Chapter 4 into conclusions and recommendations. Finally, this thesis concludes with suggestions for further research.

II. Literature Review

Chapter two acts as a starting point for researching the problem of profiling an exceptional contracting career in the Air Force. In acting as a starting point, chapter two contains a literature review on career success and how other research studies have analyzed their data to ascertain their results. Additionally, this chapter introduces the current published Air Force contracting officer career guidance with specific attention to the tenets evaluated in Chapter 3 and analyzed in Chapter 4.

Success Defined

Morris Janowitz did the first comprehensive sociological study of the military elite in *The Professional Soldier*, published in 1960. The purpose of this book was to:

> ...attempt to describe the professional life, organizational setting, and leadership of the American military as they evolved during the first half of this century (Janowitz, 1960: viii).

The study consisted of a historical sample of 761 generals and admirals appointed between 1910 and 1950. Realizing that the career military officer is, in the true sense, a professional, Janowitz thought it proper to analyze the professional officer

> ...in terms of variables which would be applicable to any professional or elite group: social origins, career lines, social status and prestige, career motivations, self-conceptions, and ideology (Janowitz, 1960: ix).

Janowitz also discussed career patterns of the military elite. One of the basic hypotheses of this study was that an officer, by following a prescribed career pattern performed with high competence, could gain entrance into the elite. A prescribed career included command and staff school, war college, and proper command and staff

assignments. However, to reach the very top of the elite, and officer needed a more innovative and adaptive career. True, he still needed to follow the elements of the prescribed career, but he needed to have unique or unusual assignments and experiences that would broaden his managerial and professional skills.

A little over a decade later, Maureen Mylander provided some interesting data and conclusions in *The Generals*, a study of United States Army generals. Published in 1974, her study includes statistics that identify significant areas to which Air Force data could be applied to determine important factors in career progression. Some of these areas include civilian education, military education, and career assignments.

Mylander's theory on how to stand out among the outstanding can be applied to all military services. The following statement especially rings true:

> Unofficial theories on getting ahead, military style, invariably boil down to this: You can't make it just by hard work, and you can't make it just by politicking. You have to work like hell and politick like hell (Mylander, 1974: 143).

Mylander found that certain career requirements exist in the Army. She quoted Major General John C. Bennet, Commanding General of the Fourth Infantry Division (Mechanized) in his description of these requirements. These requirements are listed in Table 1 with the approximate Air Force equivalents. Although Bennet had, in effect, described his own career, Mylander stated that these requirements appeared to be fairly standard for the Army.

In her study, Mylander also compiled a list of do's and don'ts for the would-be general (Tables 2 and 3). Most important, however, she pointed out that "the *sine qua non* for generalcy...is selection for a progression of troop commands.

Table 1. Typical Army Career Requirements with Air Force Equivalents

Army	Air Force	Desired Time in Each Position
Company Level Duty	Squadron Level Duty	3 years
Command a Battalion	Command a Squadron	2 years
Command a Brigade	Command a Wing	3 years
Serve as an Instructor	Same	2 years
Staff Functions Personnel Intelligence Operations Supply	Same	 1 year 1 year 1 year 1 year
Tour HQ USA	Tour HQ USAF	2 years
Joint Staff	Same	2 years
Advanced Schooling Staff and War College College	Same	4 years
Changes of Station	Same	3 years
Total		25 years

SOURCE: Maureen Mylander, *The Generals*, New York: The Dial Press, 1974, pp. 158-159.

Table 2. Do's for would-be Generals

Graduate from West Point [Air Force Academy]
Join the Regular Army [Air Force]
Choose a combat branch [fly]
Look sharp
Work hard
Pick the right sponsor
Command at each level
Go to war
Win medals
Marry a wife (husband) who loves the Army [Air Force]
Get high visibility jobs
Keep your career branch happy
Work at the Pentagon
Serve on a board or study
Attend staff college
Attend war college
Get an advanced degree
Teach at West Point [Air Force Academy]
Look good on paper
Articulate well
Keep ahead of the power curve
Play golf
Play the odds

Table 3. Don'ts for would-be Generals

Specialize
Have an oddball career pattern
Antagonize the boss
Get a bad efficiency rating
Fail an inspection
Hunt headlines
Get bad press
Be overly critical
Buck the system
Live off post [base]
Marry a wife (husband) who drinks
Run up debts
Have kids with long hair

SOURCE: Maureen Mylander, *The Generals*, New York: The Dial Press, 1974, p. 159.

Current Contracting Career Guidance

The Department of Defense has recognized the vital role of growth and development for exceptional members of the acquisition professions in DoD 5000.52-M, *Career Development Program for Acquisition Personnel.* DoD 5000.52-M is intended to provide uniform procedures for effective career development of all persons serving in acquisition positions in the Department of Defense. The manual establishes education, training, and experience standards for specific acquisition work force position categories and career fields, provides career path guides for acquisition personnel, and addressees other important issues such as certification requirements and ethics standards. DoD 5000.52-M states that career development is accomplished through the combination of work assignments, job rotation, training, education, and self-development programs.

Colonel Paul G. Patton (ret.), USAF, also addressed the concept of career success in his *Letters to a New Lieutenant.* He states that superb duty performance based upon a

firm foundation of integrity is the master key to the doors of success. He goes on to stress that doing your best, regardless of the task at hand, is the easiest way to continued success within your organization (Patton, undated).

While Colonel Patton defines how to be exceptional in an organization, he doesn't necessarily state how far a truly exceptional career should take an individual. That idea was recently touched upon by Lieutenant General Donald L. Peterson, USAF, Deputy Chief of Staff, Personnel. He states that from the Air Force perspective, success is when an individual we recruit and train, honorably serves the nation and is a contributing member of the Air Force team. General Peterson goes on to suggest that a more realistic measure of a exceptional career is promotion to the level of lieutenant colonel. Finally, he states that:

> ...There is no one magic formula or career path as it encompasses many tools including training, assignments, staff expertise, professional (and continuing) military education, advanced education, promotions and leadership opportunities (Peterson, 1999).

This research now concentrates on Chapter 4, Section 12 from the *Air Force Career Guide* because it is widely disseminated and focuses primarily on career guidance. It suggests that:

> ...future Air Force leaders will be comprised of those officers who demonstrate breadth and depth in their career field, show the ability to perform in high-level staff jobs, to include joint positions, and prove their ability to lead (Air Force, 1995: 4.12).

This ominous warning is offered to officers; the "decisions made today will impact your future (Air Force, 1995: 4.12)." The guidance is careful to preface its advice with the statement that there is "no school-approved solution." Instead the advice is to

"do the best you can...and the rest should fall into place (Air Force, 1995: 4.12, 4.12.4.2)."

The Officer Career Path Guide introduces the concept of the 'three-legged stool," upon which an officer is supported by the ideals of knowledge, performance, and leadership. Additionally, the Contracting Career Path Pyramid (Figure 2) illustrates the "three-legged stool" and provides the only known written guidance for career progression through the contracting officer career field. However, the Career Path Guide goes on to state that:

> ...experience indicates that a successful Air Force contracting career normally includes a strong technical base, solid staff experience, and challenging leadership positions. Product center positions, squadron command, joint duty, and an Air Staff tour appear to be essential building blocks for promotion to senior contracting positions. Whatever your goals, the oft-used phrase still holds true: how well you do in your current job is the most important factor in determining your future success (Air Force, 1995: 4.12.4.2).

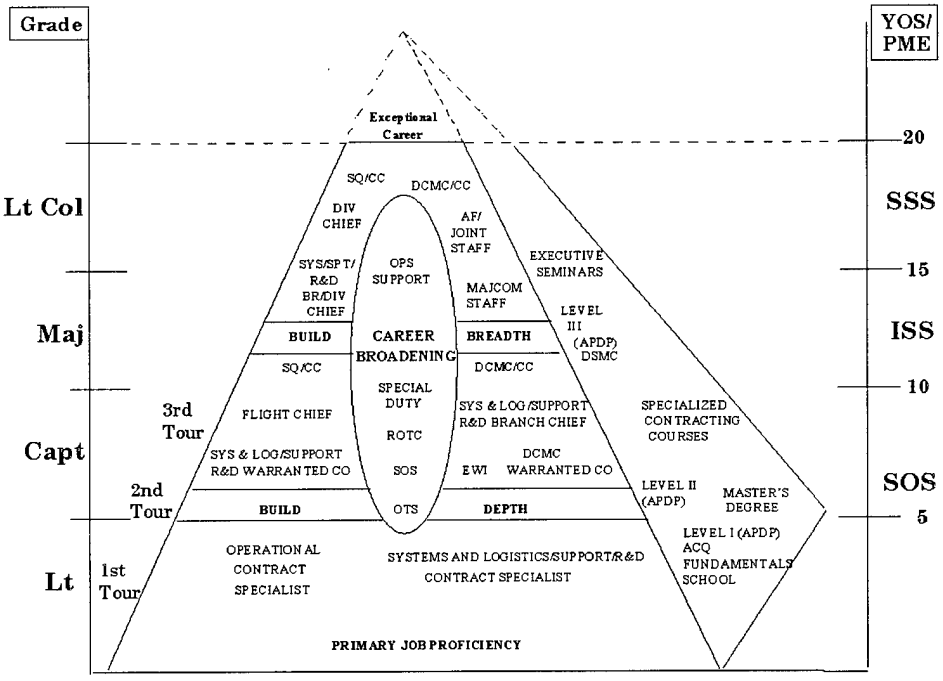


Figure 2. Contracting Officer Career Pyramid

This career pyramid is, in effect, a recommended timeline for the appropriate types of jobs for contracting officers. It indicates the preferred positions for successive blocks of time. Additionally, the shape of pyramid implies that only a fraction of officers progress to each successive level. This implies that conforming to the pyramid presented somehow increases the chances of progressing until achieving an "exceptional career" at the top of the pyramid.

Breadth and Depth. The career path guide suggests that two or three assignments are "normally required" to develop "sufficient breadth and depth" (Air Force, 1995: 4.12.3.3). This implies that roughly the first eight years should be spent working in the three areas of technical emphasis: Pre-award, post-award, and pricing (Air Force, 1995: 4.12.2). Breadth and depth can also be obtained by working in a field operating agency, headquarters staff or joint agencies such as DLA (Air Force, 1995: 4.12.3).

Progression. Advancing within an organization is a cornerstone for Air Force officer development. The Air Force guidance maintains that, "progression within a specialty provides depth and increased responsibility" (Air Force, 1995: 3). This applies to all aspects of an officer's career. There are different levels of leadership in all organizations and the guidance implies that officers should be striving to demonstrate a logical and incremental growth of responsibility.

Balance. The guidance recommends that an officer exhibit balance by "seeking opportunities in other parts of the organization" (Air Force, 1995: 4.1.2.3). At the base or program office level, this means spending an appropriate amount of time in each technical areas of emphasis. In a broader sense, this means balancing the career between major types of positions, such as base level jobs and staff level jobs.

MAJCOM Experience. Each duty occurrence is associated with a specific MAJCOM. Therefore, base level and staff level assignments may be differentiated by the MAJCOM connected with that position. "All Air Force commands include the full spectrum of operational contracting...Air Force Materiel Command (AFMC) also includes systems, laboratory, and logistics support, which covers the pre-award and pricing technical areas...The defense Logistics Agency (DLA) includes support and administration..." "...experience in several different MAJCOMs will give you a broader view of the total Air Force mission..." (Air Force, 1995: 15.12.2.2).

Career Broadening. There are opportunities for contracting officers to work outside the career field for one or two tours. The most commonly referenced career broadening opportunities are training officers in ROTC, SOS or OTS. Additional options are as commanders in non-contracting units as well as a wide-range of other endeavors such as recruiting officers. These operations support and special duty assignments are opportunities for officers to expand their staff or command skills and build breadth to their career (Air Force, 1995: 15.12.3.2).

Staff Positions. "The technical foundation you build early in your career pays great dividends as a staff officer. Staff billets above the wing level are prevalent in every major Air Force command and some joint agencies such as the DLA. An [officer's] attractiveness as a staff officer to a command will depend greatly on [the officer's] experience and performance" (Air Force, 1995: 5.12.3).

Education. Part of officer development is obtaining higher education. The educational opportunities discussed in the guidance include Professional Military Education (PME) and advanced degree education. Some officers are selected to take

their PME in-residence at an Air Force or joint service institution. The Air Force Institute of Technology (AFIT) offers selected officers the opportunity to pursue advanced degrees in residence or in a civilian institution. Additionally, many opportunities exist for officers to obtain their Master's degrees through other educational facilities located in their cities or on their bases. "...Officers...should complete PME...to remain competitive in their Air Force career progression" (Air Force, 1995: 5.12.3.3). Additionally, simply getting a master's or doctoral degree for a degree's sake is not as important as getting an education that complements the officers area of expertise (Air Force, 1995, 1.1.3). Lieutenant General Peterson reiterates this point when he states "Continuing education that complements the officer's areas of expertise is of higher value than a degree for a degree's sake" (Peterson, 1999: paragraph 8).

In conclusion, career performance appears to be the most accepted and preferred measure of career success. Doing the best job with whatever job you are given is the central theme of most of the literature. What is missing from the literature is some sort of concrete formula for success, or progression ladder to define success. The officer career path matrix attempts to provide a guide for those purposes. Certain officers are getting promoted to O-6 and beyond, and there may exist similar patterns and characteristics that defined their careers.

The next chapter develops the research questions as translated by the Career Guidance described in this chapter. Additionally, Chapter 3 explains the development of the coding scheme used for the analysis in Chapter 4.

III. Methodology

The third chapter presents an explanation of the research methodology. The discussion is divided into five sections: description population and sample, data source, research questions, the development of categorical coding used to analyze the data, and statistical methods used for analysis.

Description of Population and Sample

The population is defined as all United States Air Force officers currently assigned to the contracting (64PX) career field, who have attained the rank of colonel (O-6) and above. Additionally, those officers recently selected for promotion to the rank of colonel have been included. The sample size is 96 officers--92 O-6s (and selectees), 2 O-7s, and 2 O-8s. The sample size is equal to the population in this research due to the data source, which will be explained next.

Data Source

The source of information for this research was officer career briefs obtained from a staff officer at AFMC/PKX and the biographies of each of the general officers, which were found on the World Wide Web. These officer career briefs were pulled from the database of all Air Force officers and were selected using the 64PX career identifier. These career briefs were sanitized with respect to Social Security Numbers, names, and other Privacy Act information.

Research Questions

The primary consideration for the development of research questions is an overall evaluation of the Air Force Guidance. The preliminary research question addresses the career guidance as a complete and comprehensive indication of career outcome. The subsequent research questions address specific tenets of the Air Force guidance individually.

Overall Test of the Career Pyramid. "Future Air Force Leaders will be comprised of those officers who demonstrate breadth and depth in their career field, show the ability to perform in high level staff jobs, to include joint positions, and prove their ability to lead." (Air Force, 1995: 5.12) The career path pyramid presented in career pyramid (Figure 2) has been modeled as Table 4. Table 5 is the translation of the Air Force career guidance and the career pyramid into appropriate research questions. For each time interval implied by the career pyramid, the appropriate positions were identified. For example under the first time interval (0-4 years) an officer demonstrates conformance by holding at least one position in operational/systems/R&D/or support contracting at any time during the time interval.

Table 4. Career Pyramid Model

Years 0-4	Years 4-8	Years 8-12	Years 12-17	Years 17-20
Contract Specialist	Flight Chief	Flight Chief	Br/Div Chief	SQ/CC
Operational	Warranted CO	Branch Chief	MAJCOM Staff	DCMC/CC
Systems	PCO/ACO	Warranted CO	SQ/CC	AF/Joint Staff
Logistics	DCMC	PCO/ACO	DCMC/CC	Division Chief
Support	ALC	ALC	DLA	Career Broadening
R&D	EWI	DLA	Career Broadening	
	AFIT	Career Broadening		
	Career Broadening			

Table 5. Overall Test of Career Pyramid Research Questions

AF Guidance Interpretation	Research Question
Contracting Officers should demonstrate a strong conformity to the Air Force Contracting Officer Career Guidance	1. What proportion of officers conform to the current Air Force career guidance?

In this particular case, the career pyramid (as modeled in Table 4) will be used as a standard of whether contracting officers are demonstrating overall conformity to the Air Force career guidance. This question is very broad in the sense that it is testing the entire career pyramid as a comprehensive entity. This question will be tested in two manners. The first will assume that promotion to the next level of the overall pyramid is dependent on satisfying the previous level, and thus overall conformity to the career pyramid requires conformity to each level in sequence. The second test will involve the assumption that each of the five levels of the pyramid is independent of each other. Thus, conformance with one level doesn't necessary require conformance with a preceding level or levels. This will help to identify which of the levels may be more important to an exceptional career than others, such as those early in the career or those later in a career.

Breadth and Depth. The Air Force Career Guide states: "Future Air Force leaders will be...those officers who demonstrate breadth and depth in their career field..." "When initially assigned to contracting, [officers] are expected to build depth through technical experience..." "Breadth and depth can be gained through technical experience within the career field's three areas of emphasis: Pre-award, post-award, and pricing (Air Force, 1995: 4.12.2)." Refer back to Chapter 2 for additional discussion and specific citations. Table 6 displays the translation of these concepts.

Table 6. Breadth and Depth Research Questions

AF Guidance Interpretation	Research Question
Officers should experience as many different areas of contracting as possible in their first eight years of service.	2. What proportion of officers start their career as a contract specialist in either systems/support/R&D/or operational contracting?
	3. What proportion of officers has worked in each technical area of emphasis (pre-award, post-award, pricing) within their first two tours?
	4. What proportion of officers has worked in each base level flight category during the first 8 years of service?
Officers should hold a base level flight commander position during the 4 to 10 year point	5. What proportion of officers has been a base level flight commander during the 4 to 10 year point?

Balance. "A balanced approach to professional development—if you spent the past assignment in a buying position, then seek opportunities on the contract administration side." Refer back to Chapter 2 for additional discussion and specific citations. Table 7 displays the translation of this excerpt into research questions.

Table 7. Balance Research Questions

AF Guidance Interpretation	Research Question
Officers should spend a proportional amount of time in each area of emphasis during the first 8 years of service.	6. How much time have officers spent in each area of emphasis?

MAJCOM Experience. Each duty occurrence is associated with a specific MAJCOM. Therefore, base level and staff level assignments may be differentiated by the MAJCOM connected with that position. "All Air Force commands include the full spectrum of operational contracting...Air Force Materiel Command (AFMC) also includes systems, laboratory, and logistics support, which covers the pre-award and

pricing technical areas...The defense Logistics Agency (DLA) includes support and administration..." "...experience in several different MAJCOMs will give you a broader view of the total Air Force mission..." Refer back to Chapter 2 for additional discussion and specific citations. Table 8 displays the translation of this excerpt into research questions.

Table 8. MAJCOM Experience Research Questions

AF Guidance Interpretation	Research Question
Officers should work in as many different MAJCOMs as possible during their career	7. How many MAJCOMs have officers worked in?
	8. What proportion of their career have officers spent in each MAJCOM?
	9. What is the proportion of officers that have worked within each MAJCOM?

Career Broadening. "Current trends in support officer assignments show that at some point in their career, officers may perform a career broadening assignment. These support and special duty assignments are opportunities for officers to expand their staff or command skills and build breadth to their career." Refer back to Chapter 2 for additional discussion and specific citations. Table 9 displays the translation of this excerpt into research questions.

Table 9. Career Broadening Tours Research Questions

AF Guidance Interpretation	Research Question
Officers who intend to complete a career broadening tour should do so between the 4 and 12 year point.	10. What proportion of officers has completed a career broadening tour?
	11. Of the officers that have completed a career broadening tour, what proportion has done so during the 4 and 12-year point?

Staff Positions. "The technical foundation you build early in your career pays great dividends as a staff officer. Staff billets above the wing level are prevalent in every major Air Force command and some joint agencies such as the DLA. An [officer's] attractiveness as a staff officer to a command will depend greatly on [the officer's] experience and performance." Refer back to Chapter 2 for additional discussion and specific citations. Table 10 displays the translation of this excerpt into research questions.

Table 10. Staff Level Positions Research Questions

AF Guidance Interpretation	Research Question
Staff jobs are critical to contracting officer career outcome.	12. What proportion of officers has had a staff tour?
	13. What is proportion of officers within each staff category?

The guidance implies that staff level work has some impact on the outcome of contracting officer careers. These research questions will investigate the proportions of officers having held common staff positions throughout their career.

Education. The "Air Force Institute of Technology (AFIT) offers selected officers the opportunity to pursue advanced degrees...Officers...should complete PME...to remain competitive in their Air Force career progression." Refer back to Chapter 2 for additional discussion and specific citations. Table 11 displays the translation of this excerpt into research questions.

Table 11. Education Research Questions

AF Guidance Interpretation	Research Question
Academic and PME education is critical to contracting officer career outcome.	14. What proportion of officers has completed an advance academic degree?
	15. What proportion of officers has completed in-residence ACSC?
	16. What proportion of officers has completed in-residence AWC?

The guidance implies that academic and Professional Military Education (PME) have an influence on career outcome. This analysis recognizes that the requirements for promotion to Colonel (O-6) already include stipulations and officers have completed their advanced academic degrees, ACSC, and AWC in some form or fashion. The questions with regard to Education are intended to see if there is any sort of substantial differences or trends within the population with regard to in-residence programs.

Leadership. "There are numerous opportunities for leadership within the contracting career field. Junior officers can be functional team leaders as PCOs and ACOs. As senior captains and majors, officer can compete for SQ/CC billets. These positions provide excellent opportunities to manage and lead a unit. Within product centers, officers can be chiefs of contracting divisions in System Program Offices (SPO) supporting major systems procurement. Refer back to Chapter 2 for additional discussion and specific citations. Table 12 displays the translation of this excerpt into research questions.

Table 12. Leadership Research Questions

AF Guidance Interpretation	Research Question
Leadership positions are critical to contracting officer career outcome.	17. What proportion of junior officers have served as a PCO and/or ACO?
	18. What proportion of officers has been a squadron commander?
	19. What proportion of officers have been division chief or Director of Contracting?

Categorical Coding

The data for this study was obtained from an Air Force personnel database. It includes specific information on each duty occurrence for each officer requested. The duty Air Force specialty code (DAFSC), duty title, unit, installation, command (Cmd), location and start date for each duty occurrence were obtained. Table 13 presents a sample of this data in its original form. For this research, the data was entered into an Excel spreadsheet for ease of manipulation. Numerical codes were developed for each category used in the analysis. Each duty occurrence was coded according to its characteristics.

Table 13. Raw Data Sample

No.	DAFSC	Duty Title	Unit	Installation	Cmd	Location	Start Date
1	64P3	Deputy Chief, Services Branch	AFRL	Kirtland	AFMC	NM	990101
2	64P3	Buyer, Information Technology	AFRL	Kirtland	AFMC	NM	970701
3	C36P3	Squadron Section Commander	58 MXS	Kirtland	AETC	NM	960528
4	C36P3	Chief of Support	4077 ABW(P)	Istres	EUCOM	France	960214
5	C37A3	Squadron Section Commander	351 ARS	RAF Mildenhall	USAFE	UK	951212
6	37A1	Group Executive Officer	100 OG	RAF Mildenhall	USAFE	UK	942805

The Process. The categorization process is driven by the nature of the research questions and by the analysis techniques. After each duty occurrence was assigned a code the data was reduced to four numerical codes (one for each categorization theme) for each duty occurrence. Therefore, the data in its revised form describes the career progression for each officer as a numerical code in the space of time. The resulting spreadsheet includes both the time and category code for each duty title occurrence for each officer. Example spreadsheets are presented later on in this chapter to clarify this procedure.

This categorization theme indicates the type of position associated with the duty occurrence. There are eight major categories and a varying number of sub-categories within each broad category. The major categories as discussed below are: base level/SPO/laboratory/logistics/support, staff level, career broadening, student, instructor, specialized mission and other career.

Base Level Categories. Table 14 indicates codes used for the base level categorization. There are 27 categories ranging from flight positions to group commanders within the base level structure. The numerical code associated with each category is the number assigned to the duty occurrence. For example, the first duty occurrence in Table 13 would be coded as "120" in this spreadsheet.

Table 14. Base Level etc. Categories

101	Commodities Flight
102	Construction Flight
103	Services/A-76 Flight
104	BCAS/Operations Flight
105	Information Technology Flight
106	Small Purchases Flight
107	IMPAC Flight

108	Other Base Position
109	SPO – Procurement Officer/Negotiator
110	SPO – Contract Administrator
111	R&D - Procurement Officer/Negotiator
112	R&D – Contract Administrator
113	Logistics – Contract Negotiator
114	Logistics – Contract Administrator
115	Logistic – Contracting Officer
116	Flight Chief
117	Warranted CO
118	ACO
119	PCO
120	Deputy Branch/Section Chief
121	Branch/Section Chief
122	Flight Commander
123	Deputy Division Chief
124	Division Chief
125	Deputy Squadron Commander
126	Squadron Commander
127	Group Commander
128	Director of Contracting
129	Other Contracting Type position

Staff Level Categories. There are many staff level positions available for contracting officers. The categories used for this analysis are shown in Table 15. The list of staff level categories was compiled using historical Air Force records and literature. The most common and traditional staff positions include Headquarters Air Force, MAJCOM, Field Operating Agency (FOA) (previously a Separate Operating Agency or SOA), Numbered Air Force and Division. The MAJCOM positions are broken down into operational commands and support commands. As an example, operational commands include Air Combat Command (ACC) and Air Mobility Command (AMC) today and Strategic Air Command (SAC) and Tactical Air Command (TAC) in the past. Alternatively, support commands include Air Education and Training Command (AETC)

and Air Force Materiel Command (AFMC) today and Air Force Logistics Command (AFLC) and Air Force Systems Command (AFSC) in the past.

Table 15. Staff Categories

201	Office of Secretary of Defense
202	Headquarters, Air Force
203	Operational MAJCOM
204	Support MAJCOM
205	FOA/SOA
206	Direct Reporting Unit
207	Numbered Air Force
208	Division/Region
209	Wing/Area
210	Center
211	Group
212	Laboratory
213	Detachment
214	Joint/DCMC/DLA
215	Miscellaneous Organization
216	Inspector General

A more detailed discussion of these commands is included in the MAJCOM resolution section. Additionally, many FOAs have existed throughout the past 20 years of Air Force History. This analysis is concerned primarily with the Air Logistics Centers and Defense Contract Management Commands, which have large contracting officer authorizations. Other types of FOAs are not specifically identified in the categorization.

The remaining staff categories are explained as follows. Some officers have the opportunity to serve as a staff member in the Office of the Secretary of Defense. A Direct Reporting Unit (DRU) is a unit that reports directly to the Air Force Chief of Staff. Positions where the officers in the data set are working with other services or the services

of other countries were denoted as separate Air Force Element (AFELM)/Joint/Unified category. Positions specially indicating Wing or Group staffs are also denoted. Finally, positions at centers, laboratories, detachments and other miscellaneous units throughout the Air Force are included in the staff level categories since they have more characteristics of a staff position than a base level position.

Career Broadening Categories. There are opportunities for contracting officers to work outside the career field for one or two tours. The most commonly reference career broadening opportunities are training officers in ROTC, SOS or OTS. Additional options are as commanders in non-contracting units as well as a wide-range of other endeavors such as recruiting officers. Table 16 provides the eight career broadening categories. Duty positions involving a temporary change in duty AFSC outside of the contracting career field were coded as a career broadening position under the category of "Other" (308).

Table 16. Career Broadening Categories

301	Reserve Officer Training Corps
302	Officer Training School/BMT
303	SOS Flight Commander
304	Recruiting Service
305	Non-contracting Commander
306	USAFA
307	EWI
308	Other
309	AFMPC
310	DSMC

Student Categories. Contracting officers may also be full time students in advanced academic degree programs as well as in professional military education (PME). Table 17 shows the student categories used in this research.

Table 17. Student Categories

401	Squadron Officer School Student
402	Air Command and Staff College Student
403	Air War College Student
404	Master's Degree Student
405	Doctoral Student
406	Joint Air Command Staff College Student
407	Joint Air War College Student
408	Other Student

There are many educational opportunities for contracting officers however, only in-residence education was looked at in this study for the reasons mentioned in Chapter 2. The PME schools present in the data are Squadron Officer School, Air Command and Staff College and Air War College. Additionally, officers may have completed their PME at a joint service institution. Finally, officers may obtain either a master's degree or doctor of philosophy degree through the Air Force Institute of Technology (AFIT).

Instructor Categories. Qualified instructors are needed at various institutions within the Air Force. Table 18 shows the instructor categories for this research.

Table 18. Instructor Categories

501	Air Force Academy Instructor
502	Air Force Institute of Technology Instructor
503	Professional Military Education Instructor
504	ROTC
505	DLA

There are three basic locations for instructor tours: the Air Force Institute of Technology, Air University and the Air Force Academy. Instructors may also be involved in professional military education at Air University or may teach undergraduate education at the Air Force Academy.

Other Career Paths. Some officers considered in this study did not start out their career as a contracting officer. For example, pilots in training that don't graduate are sometimes placed in contracting as a new duty AFSC. These duty occurrences did show up in the data and were distinguished from career broadening changes in AFSC because they were not temporary and occurred at the beginning of a career. The category used in this case was pre-contracting career. For example, first duty title in Table 13 would be coded as 701. These officers were included in this study because the Officer Career Pyramid is still used as a counseling device for their respective careers, even though they didn't start out initially in the 64PX career field.

Once the data was coded it was entered into an Excel spreadsheet which displays both the category and timing of each duty occurrence. Figure 4 shows an example of this spreadsheet. The individuals in the population are listed horizontally across the top row. The time in months is shown in the leftmost column. The codes are read down each column providing a chronological profile of an officer's career. For example, officer number one held the 101 position for the twelve months shown in the figure.

	Officer															
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	101	101	101	701	101	303	103	101	104	103	101	103	701	501	201	101
2	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
3	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
4	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
5	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
6	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
7	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
8	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
9	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
10	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
11	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
12	101	101	101	701	101	303	103	101	104	103	101	103	701	303	201	101

Figure 3. Example Formatted Data

MAJCOM Experience. Each duty occurrence is associated with a specific MAJCOM (ACC, AMC, AFMC, etc.) whether it is base level, staff level or otherwise. In this regard, each of these duty titles were categorized by the MAJCOM accompanying it. The purpose of this categorization theme is to assess the extent of MAJCOM experience for each officer.

The additional categorization theme regarding the MAJCOM experience for each officer offers another perspective on the same raw data. Each duty title occurrence was categorized according to the MAJCOM for that duty occurrence. This provided a historical challenge since the command structure of the Air Force has changed substantially since the early 1980's (Ravenstein, 1985: 10-21 and Ravenstein, 1999: 1-12). For example, in 1991, ACC and AMC replaced MAC, TAC, and SAC; some of the SAC mission went to Space Command. There are some units that do not report to a

MAJCOM, but instead report directly to Air Staff or to a joint agency. FOA's and DRU's are examples of these categories. Table 19 shows the comprehensive list of MAJCOMs for the time span considered. Note, there is little correlation between many of the old and new commands, therefore this categorization theme requires the use of the complete list.

Since the data set contains duty titles that span one or more changes in the Air Force command structure, this introduces an anomaly into the data set. For those positions occurring in a MAJCOM during an Air Force restructuring, there may be more than one MAJCOM associated with the position. Therefore, since this could not be addressed in the analysis, caution must be taken when making conclusions on the number of MAJCOMs experienced in a career. The formatted data looks similar to Figure 4.

Table 19. Comprehensive List of MAJCOMs

* denotes organizations that no longer exist

Operational Commands	**Support Commands**
Air Combat Command	Air Education and Training Command
Air Force Space Command	*Air Force Communications Command
Air Force Special Operations Command	Air Force Element/Joint
Air Mobility Command	Air Force Materiel Command
*Military Airlift Command	*Air Force Systems Command
*Pacific Air Command	*Air Force Logistics Command
Pacific Air Forces	*Air University
*Space Command	Direct Reporting Unit
*Strategic Air Command	Field Operating Agency
*Tactical Air Command	Headquarters, Air Force
U.S. Air Forces in Europe	Headquarters, Air Force Reserves
	Office of the Secretary of Defense

Leadership Level. This categorization theme was developed because the level of leadership experience can be an important factor in an officer's career. The data was not entirely conducive to determining the level of leadership in all cases. Therefore, for a duty title to be categorized as a leadership position it had to clearly indicate that the officer was in the top position of an identifiable unit. The specific leadership levels considered at base level are flight (or branch) commander and squadron commander or group level commander. At the staff level, the leadership categories applied were branch chief, division chief, or director of contracting.

There were a few problems encountered in this coding process. First, some actual leadership positions may have been missed if they were ambiguously defined. Second, the staff level leadership positions are not always equivalent between staff organizations. In other words, a branch chief at a numbered air force may not be equivalent to a branch chief at Air Staff. This theme remains valid because a promotion board or commander board would face the same problem in determining the level of leadership in the duty history. These problems will be discussed more in depth in Chapter 5. The formatted data looks similar to Figure 4.

Analysis Techniques

This research examines the factors that influence a contracting officer's career. To understand the scope of such influence, applicable Air Force and Department of Defense regulations were reviewed to establish the criteria for exceptional careers. An analysis of the data contained in each officer's career brief is then conducted to find similarities/differences with each officer's career and the recommended career path from

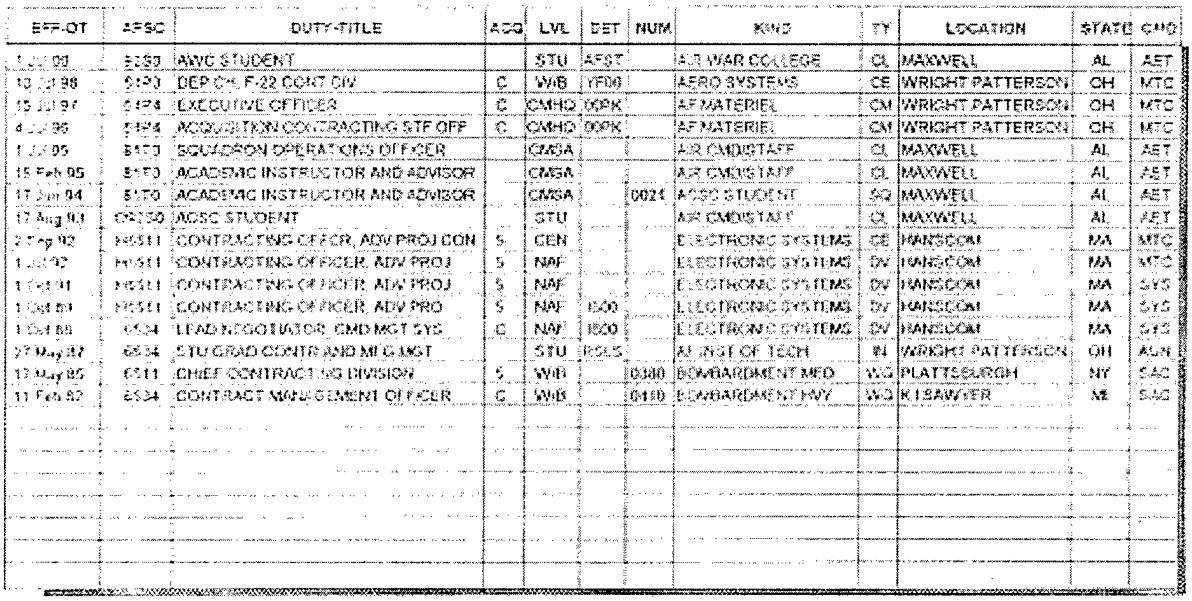
AFPAM 36-2630. These similarities and differences are found using the coding scheme explained earlier in the chapter. By comparing each set or sets of numerical codes against each stage of the pyramid, conformity or nonconformity with that pyramid is gauged. Percentages of officers following or not following the career path at various points in the pyramid are created for comparison and analysis. Investigative questions are answered based on the analysis resulting in conclusions and recommendations. In short, the research plan follows this scheme:

1. define the methodology used;
2. code the data in accordance with defined coding scheme;
3. answer investigative questions through an analysis of coded data; and
4. make conclusions and recommendations based on analysis.

Validity of the Data and Coding

The officer career briefs are an accurate source of education, duty-occurrence, and dates of assignment information. This database has been accumulated over a period of years in various personnel systems and has been subjected to yearly reviews and corrections by officers. These briefs are used by personnel boards to determine which officers to promote, the assignments they receive, and other career actions. While not as detailed as OPRs, they were far less sensitive and more readily available.

The coding scheme is subjective and open to error and bias with regard to the identification of leadership positions, base-level experiences, and other duty-titles that are not easily recognizable or categorized. The following examples should help future researchers recreate the analysis conducted in Chapter 4.



EFF-DT	AFSC	DUTY-TITLE	ACQ	LVL	DET	NUM	KIND	TY	LOCATION	STATE	CMD
1 Jul 00	64S3	AWC STUDENT		STU	AFST		AIR WAR COLLEGE	OL	MAXWELL	AL	AET
13 Jul 98	64P3	DEP CHF F-22 CONT DIV	C	WIB	YF06		AERO SYSTEMS	CE	WRIGHT PATTERSON	OH	MTC
15 Jul 97	64P4	EXECUTIVE OFFICER	C	CMHQ	00PK		AF MATERIEL	CM	WRIGHT PATTERSON	OH	MTC
4 Jul 96	64P4	ACQUISITION CONTRACTING STF OFF	C	CMHQ	00PK		AF MATERIEL	CM	WRIGHT PATTERSON	OH	MTC
1 Jul 95	8470	SQUADRON OPERATIONS OFFICER		CMSA			AIR CMD/STAFF	OL	MAXWELL	AL	AET
15 Feb 95	8470	ACADEMIC INSTRUCTOR AND ADVISOR		CMSA			AIR CMD/STAFF	OL	MAXWELL	AL	AET
17 Jun 94	8470	ACADEMIC INSTRUCTOR AND ADVISOR		CMSA		0021	ACSC STUDENT	SQ	MAXWELL	AL	AET
17 Aug 93	0402	ACSC STUDENT		STU			AIR CMD/STAFF	OL	MAXWELL	AL	AET
2 Sep 92	64S11	CONTRACTING OFFICER, ADV PROJ CON	S	GEN			ELECTRONIC SYSTEMS	CE	HANSCOM	MA	MTC
1 Jul 92	64S11	CONTRACTING OFFICER, ADV PROJ	S	NAF			ELECTRONIC SYSTEMS	DV	HANSCOM	MA	MTC
1 Oct 91	64S11	CONTRACTING OFFICER, ADV PROJ	S	NAF			ELECTRONIC SYSTEMS	DV	HANSCOM	MA	SYS
1 Oct 89	64S11	CONTRACTING OFFICER, ADV PRO	S	NAF	1500		ELECTRONIC SYSTEMS	DV	HANSCOM	MA	SYS
1 Oct 88	6534	LEAD NEGOTIATOR, CMD MGT SYS	C	NAF	1500		ELECTRONIC SYSTEMS	DV	HANSCOM	MA	SYS
27 May 87	6634	STU GRAD CONTR AND MI G MGT		STU	RSLS		AU INST OF TECH	IN	WRIGHT PATTERSON	OH	AUN
17 May 85	6511	CHIEF CONTRACTING DIVISION	S	WIB		0380	BOMBARDMENT MED	WG	PLATTSBURGH	NY	SAC
11 Feb 82	6534	CONTRACT MANAGEMENT OFFICER	C	WIB		0410	BOMBARDMENT HVY	WG	K I SAWYER	MI	SAC

Figure 4. Duty History for Officer #18

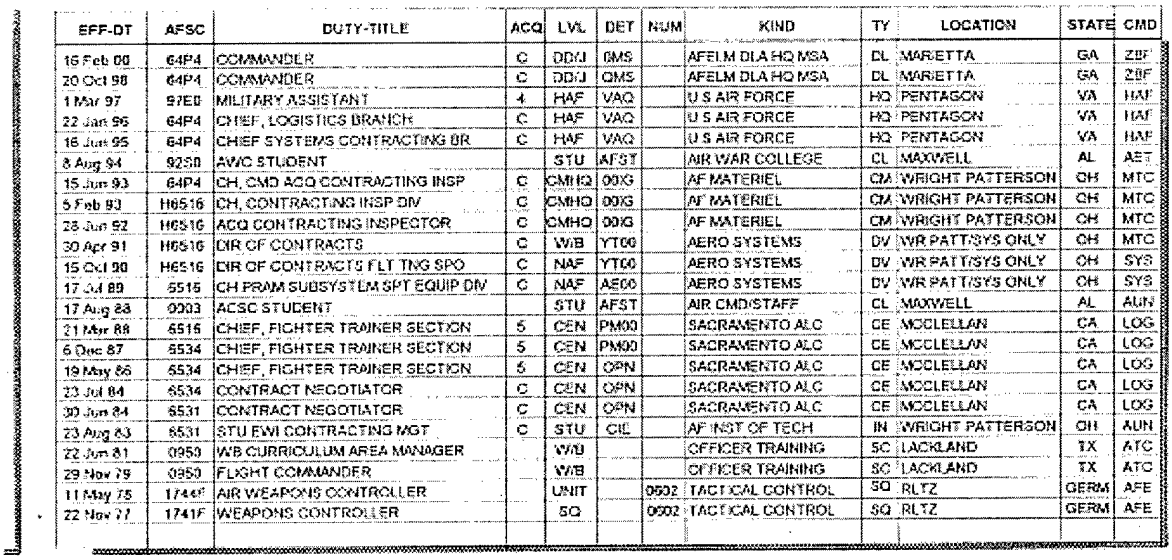
The coding begins by associating each duty-title in Figure 5 and 6 with a particular numerical code (from 101 – 701) according to categories listed in Tables 15 – 18 mentioned previously in this chapter. Additionally, the code for career fields other than 64PX is identified as 701. The second step is to quantify the number of months the officer held for each duty-title (code), which is done in Tables 20 and 21.

Table 20. Coding of Officer #18

Duty Title	Code	Months
Contract Management Officer (Wing)	108	11 Feb 82 – 17 May 85 (39 months)
Chief, Contracting Division (Wing)	124	17 May 85 – 27 May 87 (24 months)
Student, AFIT	404	27 May 87 – 1 Oct 88 (15 months)
*Lead Negotiator/Contracting Officer (Division/Program Office)	109	1 Oct 88 – 17 Aug 93 (58 months)
ACSC Student	402	17 Aug 93 – 17 Jun 94 (10 months)
ACSC Instructor/Operations Officer	503	17 Jun 94 – 4 Jul 96 (25 Months)
*Contracting Staff Officer/Executive Officer (AFMC)	204	4 Jul 96 – 13 Jul 98 (24 months)
Deputy Chief, F-22 Division (AFMC)	123	13 Jul 98 – 1 Jul 00 (24 months)
Student, AWC	403	1 Jul 00 – 1 Apr 01** (9 months)

* These positions were included together because they were lateral moves within the same organization.

** For the purposes of this research, the cutoff date for current assignments was 1 Apr 01.



EFF-DT	AFSC	DUTY-TITLE	ACQ	LVL	DET	NUM	KIND	TY	LOCATION	STATE	CMD
16 Feb 00	64P4	COMMANDER	C	DD/J	QMS		AFELM DLA HQ MSA	DL	MARIETTA	GA	ZBF
20 Oct 98	64P4	COMMANDER	C	DD/J	QMS		AFELM DLA HQ MSA	DL	MARIETTA	GA	ZBF
1 Mar 97	97E0	MILITARY ASSISTANT	4	HAF	VAQ		U S AIR FORCE	HQ	PENTAGON	VA	HAF
22 Jun 96	64P4	CHIEF, LOGISTICS BRANCH	C	HAF	VAQ		U S AIR FORCE	HQ	PENTAGON	VA	HAF
16 Jun 95	64P4	CHIEF SYSTEMS CONTRACTING BR	C	HAF	VAQ		U S AIR FORCE	HQ	PENTAGON	VA	HAF
8 Aug 94	9250	AWC STUDENT		STU	AFST		AIR WAR COLLEGE	CL	MAXWELL	AL	AET
15 Jun 93	64P4	CH, CMD ACQ CONTRACTING INSP	C	CMHQ	00XG		AF MATERIEL	OM	WRIGHT PATTERSON	OH	MTC
5 Feb 93	H6516	CH, CONTRACTING INSP DIV	C	CMHQ	00XG		AF MATERIEL	OM	WRIGHT PATTERSON	OH	MTC
28 Jun 92	H6516	ACQ CONTRACTING INSPECTOR	C	CMHQ	00XG		AF MATERIEL	OM	WRIGHT PATTERSON	OH	MTC
30 Apr 91	H6516	DIR OF CONTRACTS	C	WB	YT00		AERO SYSTEMS	DV	WR PATT/SYS ONLY	OH	MTC
15 Oct 90	H6516	DIR OF CONTRACTS FLT TNG SPO	C	NAF	YT00		AERO SYSTEMS	DV	WR PATT/SYS ONLY	OH	SYS
17 Jul 89	6516	CH PRAM SUBSYSTEM SPT EQUIP DIV	C	NAF	AE00		AERO SYSTEMS	DV	WR PATT/SYS ONLY	OH	SYS
17 Aug 88	0003	ACSC STUDENT		STU	AFST		AIR CMD/STAFF	CL	MAXWELL	AL	AUN
21 Mar 88	6516	CHIEF, FIGHTER TRAINER SECTION	5	CEN	PM00		SACRAMENTO ALC	CE	MCCLELLAN	CA	LOG
6 Dec 87	6534	CHIEF, FIGHTER TRAINER SECTION	5	CEN	PM00		SACRAMENTO ALC	CE	MCCLELLAN	CA	LOG
19 May 86	6534	CHIEF, FIGHTER TRAINER SECTION	5	CEN	OPN		SACRAMENTO ALC	CE	MCCLELLAN	CA	LOG
23 Jul 84	6534	CONTRACT NEGOTIATOR	C	CEN	OPN		SACRAMENTO ALC	CE	MCCLELLAN	CA	LOG
30 Jun 84	6531	CONTRACT NEGOTIATOR	C	CEN	OPN		SACRAMENTO ALC	CE	MCCLELLAN	CA	LOG
23 Aug 83	6531	STU EWI CONTRACTING MGT	C	STU	CIL		AF INST OF TECH	IN	WRIGHT PATTERSON	OH	AUN
22 Jun 81	0950	WB CURRICULUM AREA MANAGER		WB			OFFICER TRAINING	SC	LACKLAND	TX	ATC
29 Nov 79	0950	FLIGHT COMMANDER		WB			OFFICER TRAINING	SC	LACKLAND	TX	ATC
11 May 75	1744F	AIR WEAPONS CONTROLLER		UNIT		0502	TACTICAL CONTROL	SQ	RLTZ	GERM	AFE
22 Nov 77	1741F	WEAPONS CONTROLLER		SQ		0502	TACTICAL CONTROL	SQ	RLTZ	GERM	AFE

Figure 5. Duty History for Officer #20

Table 21. Coding of Officer #20

Weapons Controller (USAFE)	701	22 Nov 77 – 29 Nov 79 (24 months)
Flight Commander, SOS, ATC (now AETC)	303	29 Nov 79 – 23 Aug 83 (45 months)
*Student, EWI, ATC (now AETC)	307	23 Aug 83 – 30 Jun 84 (10 months)
Contract Negotiator, ALC, Logistics Command (now AFMC)	113	30 Jun 84 – 19 May 86 (23 months)
Section Chief, ALC, Logistics Command (now AFMC)	121	19 May 86 – 17 Aug 88 (27 months)
Student, ACSC, Air University (AETC)	402	17 Aug 88 – 17 Jul 89 (11 months)
Division Chief, ASD, Systems Command (now AFMC)	124	17 Jul 89 – 15 Aug 90 (13 months)
Director of Contracts, ASD, Systems Command (now AFMC)	128	15 Oct 90 – 28 Jul 92 (22 months)
Acquisition Contracting Inspector, HQ AFMC	204	28 Jun 92 – 5 Feb 93 (17 months)
Chief, Contracting Inspection Division, HQ AFMC	124	5 Feb 93 – 15 Jun 93 (4 months)
Chief, Command Acquisition Contracting Inspection, HQ AFMC	204	15 Jun 93 – 8 Aug 94 (14 months)
Student, AWE, Air University (AETC)	403	8 Aug 94 – 16 Jun 95 (10 months)
**Branch Chief/Military Assistant, HQ Air Force	202	16 Jun 95 – 20 Oct 98 (40 months)
Commander, DLA-Marietta, Defense Logistics Agency	214	20 Oct 98 – 1 Apr 01 (30 months)

* While the duty-title states "student", it is coded as a career broadening tour under EWI

** While the duty-title states "Branch Chief" for part of the time, it should be noted that this "branch" was a part of Headquarters Air Force (HAF) and was recorded as a staff position in HAF in order to insure the officer received credit for the HAF tour.

The final step was to take the codes and corresponding number of months and enter them into a spreadsheet similar to Figure 3, which is printed again here for convenience.

	Officer															
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	101	101	101	701	101	303	103	101	104	103	101	103	701	501	201	101
2	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
3	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
4	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
5	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
6	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
7	101	101	101	701	101	303	103	101	104	103	101	103	701	102	201	101
8	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
9	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
10	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
11	101	101	101	701	101	303	103	101	104	103	101	103	701	101	201	101
12	101	101	101	701	101	303	103	101	104	103	101	103	701	303	201	101

Figure 3. Example Formatted Data

The data can now be compared across similar months (or groups of months) to test conformity to Air Force guidance. In this case, 11 out of the 16 officers (68.8%) served in some sort of base-level position (101-129) during the first 12 months of their career. Additionally, 2 out of the 16 officers (12.5%) served in some other career field (701) for the first 12 months of their career.

The coding scheme and analysis techniques outlined in Chapter 3 provide the foundation for the analysis of the investigative questions next in Chapter 4, and finally the conclusions and recommendations in Chapter 5.

IV. Findings and Analysis

Introduction

This chapter presents the findings from data analysis for the purpose of answering the research questions posed in Chapter 3. The following sections will test the overall pyramid as outlined by the Officer Career Pyramid and broken down in Table 4; and will address specific sections of the guidance in order to provide additional breadth of information for evaluation. Each major topic will address the corresponding research questions referenced in Chapter 3 with an analysis and short discussion.

Overall Test of the Career Pyramid

Research Question 1: What proportion of officers conforms to the current Air Force career guidance? This research question addresses conformity, where conformity is first demonstrated by holding at least one of the positions in each successive time interval specified by the career pyramid model in Table 4 developed in Chapter 3. For example, for an officer to be in conformance with the overall model, they would have to have served in a position designated by each of the five intervals. The second test of conformity is demonstrated by holding at least one of the positions in the time interval specified by Table 4. For example, for an officer to be in conformance in years 4 – 8 of their career, they would have to have served in a position such as Flight Chief, Warranted CO, PCO/ACO, DCMC, ALC, EWI, AFIT, or Career Broadening. The same would apply for the other four time intervals. The first method views overall model

conformance as conforming to each level in succession. The second method views model conformance as conforming to any of the five intervals of Table 4 (reprinted below).

Table 4. Career Pyramid Model

Years 0-4	**Years 4-8**	**Years 8-12**	**Years 12-17**	**Years 17-20**
Interval 1	*Interval 2*	*Interval 3*	*Interval 4*	*Interval 5*
Contract Specialist Operational Systems Logistics Support R&D	Flight Chief Warranted CO PCO/ACO DCMC ALC EWI AFIT Career Broadening	Flight Chief Branch Chief Warranted CO PCO/ACO ALC DLA Career Broadening	Br/Div Chief MAJCOM Staff SQ/CC DCMC/CC DLA Career Broadening	SQ/CC DCMC/CC AF/Joint Staff Division Chief Career Broadening

While many of the 96 officers examined demonstrated conformity to various blocks of the pyramid in differing stages of their careers, which will be explained later, only 14 of the officers, or 14.6 percent, demonstrated conformity throughout their careers. That is, 14 of the officers held at least one of the specified duty titles during each successive period of time outlined in Table 4. However, this number can also be interpreted to be somewhat misleading since a total of 51 officers, or 53.1 percent, started in another career field and cross-trained into the contracting officer career field. If you only look at conformity from the time the cross-trainees came into the career field (time intervals 2, 3, 4, and 5), the results are much different. In fact, conformity actually increases during the later time intervals as shown in Table 22.

The second way to test for conformity was to look at each interval independently and calculate the percentage of officers conforming to each of the five intervals. This second method will illustrate which stage of the pyramid had the greatest conformity. Table 22 displays these various combinations of years of conformity.

Table 22. Overall Pyramid Conformity

Time Intervals	Conformance
1 and 2	24/96 – 25 %
1, 2, and 3	16/96 – 17 %
1, 2, 3, and 4	16/96 – 17 %
1, 2, 3, 4, and 5*	14/96 – 15 %
2, 3, 4, and 5	23/96 – 24 %
3, 4, and 5	45/96 – 47 %
4 and 5	75/96 – 78 %
5	79/96 – 82 %

Time Interval	Conformance
1 (Years 0 – 4)	43/96 – 45 %
2 (Years 4 – 8)	56/96 – 58 %
3 (Years 8 – 12)	50/96 – 52 %
4 (Years 12 – 17)	87/96 – 91 %
5 (Years 17 – 20)	79/96 – 82 %

*This represents complete conformance as specified by the first test of conformity in Research Question #1.

With the exception of EWI, which is recommended between the second and third tours, the current model does not make adjustments for officers who enter into the career field during various stages of the pyramid. However, if the first interval is ignored, and only intervals 2, 3, 4, and 5 are looked at in succession, the percentage rises from 15 to 24 percent. Additionally, if the first two intervals are ignored (3, 4, and 5), the percentage of conformity rises from 24 to 47 percent. This can be interpreted a couple of ways. The first of which is that perhaps it's not as important to demonstrate conformity for the first 2 intervals, which correspond to an officer's company grade years of 1 – 8. This notion is supported by the second part of the analysis, which shows that conformance with the individual intervals increases for the most part as the intervals increase. The second interpretation can be that cross-training officers won't conform to the first couple of intervals because they're not in the pyramid yet. However, as they come into the career field in intervals 2, 3, and 4, the overall and individual conformity percentages increase. The highest conformity occurs in interval 4, 91 percent, which corresponds to the 12 – 17 year point. The analysis concluded that the singular reason for this increase was the

presence of staff assignments around the 12-year point, which will be addresses in more detail in subsequent analyses.

Breadth and Depth

This section addresses the issues relating to the development of breadth and depth in an Air Force career.

Research Question 2: What proportion of officers start their career as a contract specialist in either systems/support/R&D/or operational contracting? As stated previously, the number will be somewhat misleading since 51 of the 96 officers started their careers in some other career field. However, of the remaining 45, a total of 43 (95.6 percent) started their careers in a position recommended by the model. The remaining 2 officers started their careers in graduate school. It should be noted that by including the cross-trainees, the total percentage of officers who started their careers in a model-recommended position falls to 44.8 percent.

Research Question 3: What proportion of officers has worked in each technical area of emphasis (pre-award, post-award, pricing) within their first two tours? This question takes a look at the first 72 – 96 months of an officer's career. While it was difficult to tell exactly what specific role an officer had just by looking at the duty titles, in can be said with certainty that 8 of the 96 officers, or 8.3 percent, demonstrated conformity to all three areas. The most difficult aspect of this particular analysis was analyzing pricing experience. Many officers may have had exposure to pricing that wasn't spelled out in their duty-titles. Further analysis of OPRs, or interviews of each respective officer, would probably be the only true means to measure exact pricing

experience. However, by looking just at pre- and post-award experience, the number of officers demonstrating conformity increases to 32.3 percent, or 31 of the 96 officers.

Research Question 4: What proportion of officers has worked in each base level flight category during the first 8 years of service? The data for this question was unavailable due to the fact that base level flight categories have changed dramatically over the last 20 years and many of the categories spelled out in the model have only been created recently. Additionally, many positions were simply labeled "Base Contracting Officer" or "Base Procurement Officer" and weren't specific with respect to flights. This question was thrown out during analysis.

Research Question 5: What proportion of officers has been a base level flight commander during the 4 to 10 year point? This question takes a look at the 48 – 120 month periods in an officer's career. Any officer whose duty title signified flight commander during that period was given credit for conforming to this specific tenant of the model. The analysis revealed that 13 out of 96 officers, or 13.5 percent had been base level flight commanders. However, an additional 12 officers had duty titles such as flight chief, branch chief, and section chief during that period so the percentage could increase to 26 percent if those duty titles were given equal weight.

Balance

Research Question 6: How much time has officers spent in each area of emphasis? Guidance suggests that officers, who previously spent time in a buying position, should seek pricing or contract administration positions. However, as previously mentioned in Question 4, the data available was inconclusive with specific

respect to pricing experience. Additionally--buying, contract administration, and closeout type positions weren't identified specifically by duty titles. To further analyze this aspect of the model, and in-depth look at OPRs or interviews with senior officers should be utilized.

MAJCOM Experience

Research Question 7: How many MAJCOMs have officers worked in? Air Force guidance suggests that experience in several different MAJCOMs will provide a broader view of the Air Force. This question takes a look at the actual number of MAJCOMs in which each officer has worked. Figure 6 illustrates the various numbers of MAJCOM experience across all 96 officers. Since MAJCOMs have changed and consolidated throughout the last 20 years, duplicate commands were recognized in the analysis and

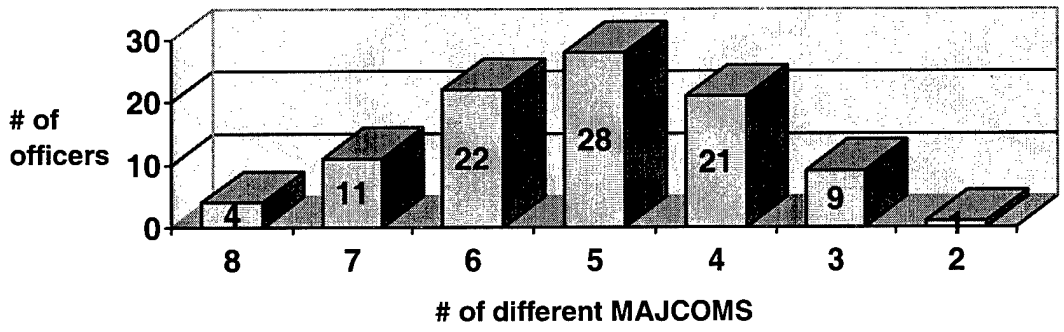


Figure 6. Number of MAJCOMs During Career

were only counted as one. For instance, an officer who served in AFMC, Logistics Command, and Systems Command, was given credit for one command. The same

consolidation was done with AMC and MAC, and ATC and AETC. The range, as determined by this analysis, was between 2 and 8 MAJCOMs. The distribution is roughly symmetric and centered around 5 MAJCOMs. The average is 5.2 MAJCOMs per officer.

Research Question 8: What proportion of their careers have officer spent in each MAJCOM?

Figure 7 shows the average time spent across all the MAJCOMs. Only the top 10 out of the 24 total MAJCOMs observed were chosen for this chart.

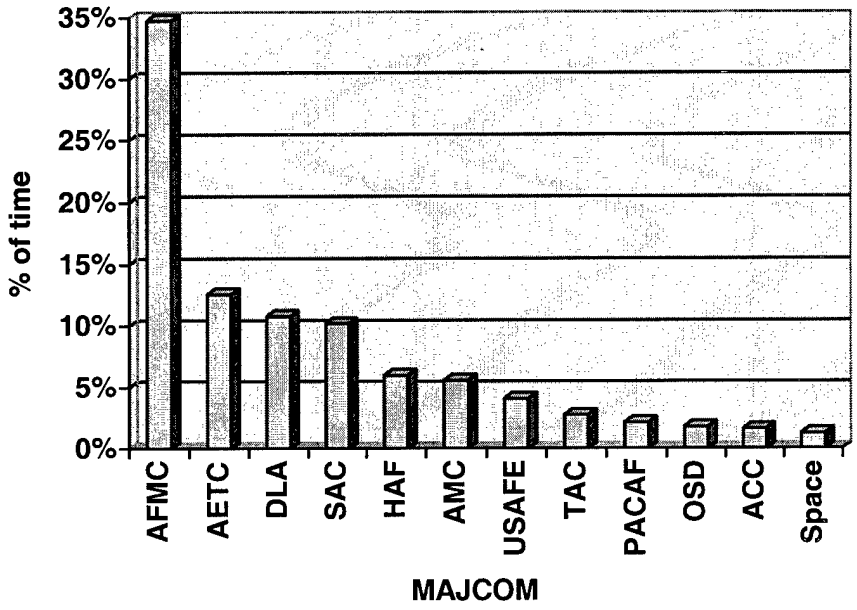


Figure 7. Proportion of Time per MAJCOM

In Figure 7, AFMC includes assignments in Systems Command and Logistics Command. That is, if an officer spends 36 months specifically coded in AFMC, 24

months coded in Systems Command, and 48 months coded in Logistics Command, he or she would be credited with 108 months (9 years) in AFMC. That number was then weighed against the total amount of time in service to come up with the percentage of time spent in AFMC. Additionally, AETC includes assignments in Air Training Command and PACAF includes assignments in Alaskan Air Command. Finally, AMC includes those officers who spent time in MAC. The chart demonstrates that exceptional officers have spent half of their career in AFMC and AETC, while operational assignments such as PACAF, ACC, and USAFE represent only a small fraction of time.

Research Question 9: What is the proportion of officers that have worked within each MAJCOM? While Question 8 focused on the actual percentage of time in each MAJCOM, this question focuses on the actual likelihood of serving in a particular

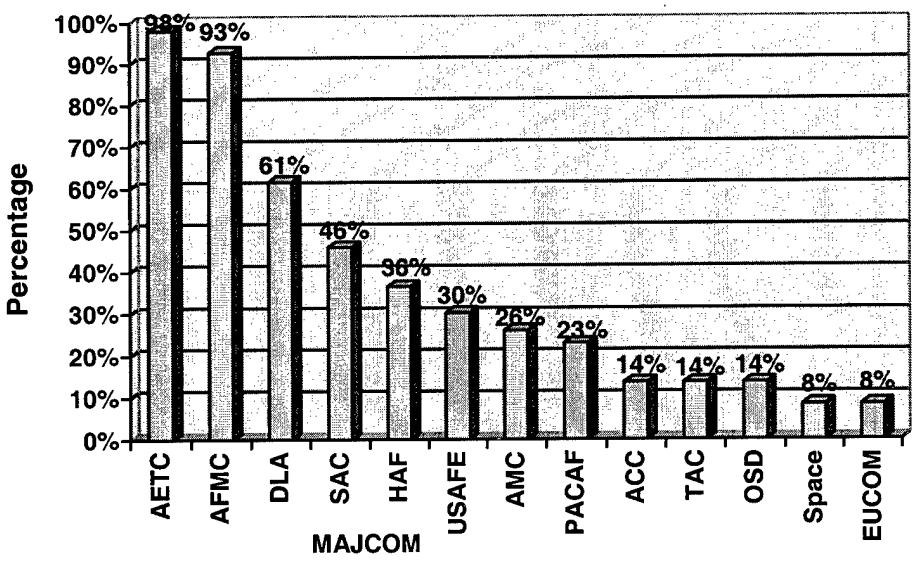


Figure 8. Proportion of Officers Spending Time per each MAJCOM

MAJCOM. It should be noted that SAC, TAC, and MAC no longer exist, so the likelihood of currently serving on one of those MAJCOMs is zero. Figure 8 graphically

illustrates the percentage of officers who have served in each MAJCOM. The chart shows an almost 100 percent probability of serving in AETC at some point in a career (SOS, ACSC, AWC, AFIT, etc) and over a 90 percent probability of serving in AFMC at some point in a career. While SAC and TAC no longer exist, the opportunity to fill some of those positions still exists with ACC and Space Command, which have taken over many of those responsibilities.

Career Broadening

Air Force guidance suggests that career broadening is necessary to create a well-rounded officer and to expand an officer's staff or command skills. Career broadening includes assignments such as ROTC, Academy, or SOS instructor, participating in EWI, or being assigned to AFPC or the Recruiting Service.

Research Question 10: What proportion of officers has completed a career broadening tour? The data analysis showed that 48 out of 96 officers, 50 percent, served in a career broadening tour during their career.

Research Question 11: Of the officers that have completed a career broadening tour, what proportion has done so during the 4 – 12 year point? Air Force guidance recommends career broadening tours be completed as soon in a career as possible so as to not mess with other key career development opportunities. This analysis was conducted using the information from the 48 officers who performed a career broadening tour. They would conform to this tenant if their career broadening tour occurred within the 48 and 144-month period. Of the 48 officers examined, 45 of them (93.8 percent) completed

their tours within that time period. The other 3 officers completed their career broadening tour shortly after the 12-year point.

Staff Level Positions

This area of the analysis examines the proportion of officers serving a staff tour and the proportion of officers serving within each staff category.

Research Question 12: What proportion of officers has had a staff tour? As previously mentioned in this chapter, 96 out of 96 officers (100 percent) have completed a staff tour. The average number of staff positions each officer has served is 3.6.

Research Question 13: What is the proportion of officers within each staff category? There are many different staff positions a contracting officer can hold. Figure 9 illustrates the proportion of officers that have worked in each of the outlined staff positions. Most of the staff positions have been served in the Defense Logistics Agency, operational and support MAJCOMs, Air Logistics Centers, and Headquarters Air Force. It is interesting to note that 4 out of 4 General Officers served staff tours in DLA and HAF. The DRU position is at the Air Force Academy, and the FOA position was as Director of NAF purchasing at Randolph AFB, Texas.

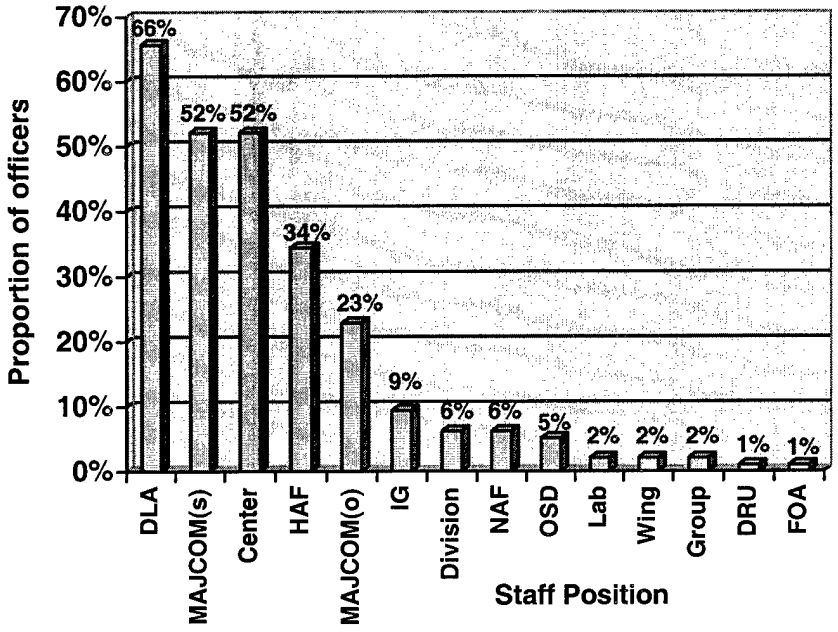


Figure 9. Participation by Officers in Various Staff Positions

Education and PME

Air Force guidance suggests that academic and PME education is critical to contracting officer career outcome. However, a degree for a degree's sake is not as important as a degree that complements an officer's career. This section takes a look at advanced academic degrees, in-residence ACSC, and in-residence AWC. It should be noted that all 96 officers have completed ACSC and AWC in some form or fashion, however; this analysis concentrates on in-residence only. Figure 10 breaks down all three education areas with respect to in-residence and joint opportunities.

Research Question 14: What proportion of officers has completed an advanced academic degree? All 96 officers have received an advanced academic degree of some

sort, and many have more than one. It should be noted that only 17 out of 96 officers (17.7 percent) received an advanced academic degree in the field of contracting or procurement. Additionally, 16 of the 96 officers (16.7 percent) received their degrees in-residence through the Air Force Institute of Technology and 2 officers currently have doctorate degrees in Management.

Research Question 15: What proportion of officers has completed in-residence ACSC? 48 out of 96 officers (50 percent) have completed in-residence ACSC. Out of those 48, seven officers (14.6 percent) completed ACSC through a joint program.

Research Question 16: What proportion of officers has completed in-residence AWC? 49 out of 96 officers (51 percent) have completed some sort of in-residence AWC. Out of those 49 officers, 28 of them (57.1 percent) completed AWC in-residence through a joint services program.

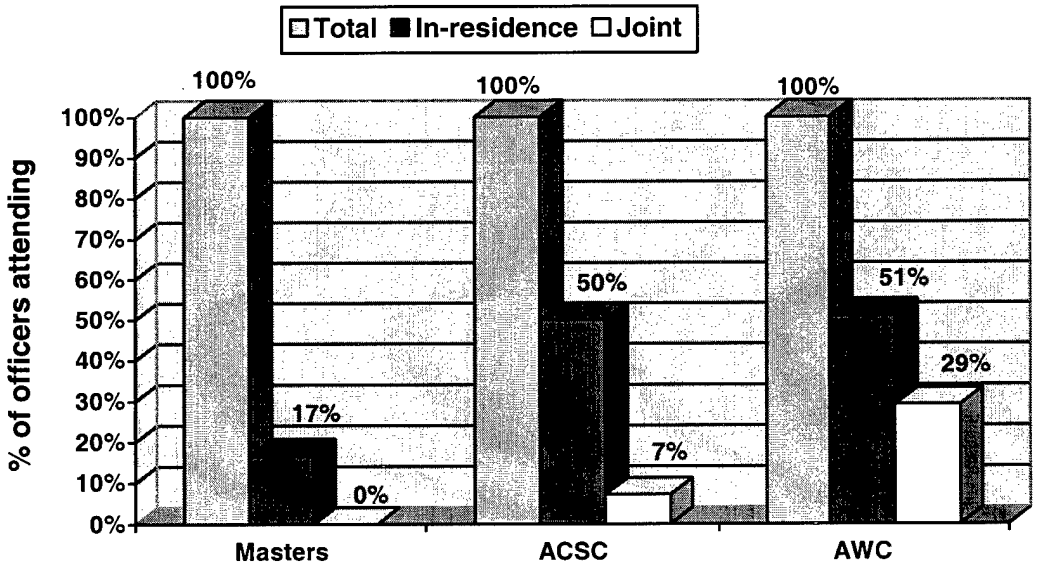


Figure 10. Advanced Academic Degrees and PME

Leadership

Air Force guidance suggests that leadership positions are critical to a contracting officer's career outcome. This section examines the various leadership positions available to contracting officers.

Research Question 16: What proportion of junior officers has served as a PCO and/or ACO? This question was a bit difficult to research since many officers have served in a warranted position, yet the duty title didn't reflect that information. Again, a more in-depth analysis of OPRs and interviews with officers could reveal more detailed warrant information. However, 10 out of the 96 officers (10.4 percent) did serve in a position with a duty title designated as PCO and/or ACO.

Research Question 17: What proportion of officers has been a squadron commander? Clearly, these positions have been scarce and limited for the contracting officer in the past, though current O-4's and O-5's have much more opportunity for these positions as a result of AFMC reorganization. Still, the truest test of leadership could most clearly be identified as a squadron commander. Of the 96 officers reviewed, five have served as a squadron commander (5.2 percent). Additionally, one officer served in an equally challenging role as a group commander.

Research Question 18: What proportion of officers has been a division chief? More opportunities exist for leadership in chief positions than in squadron commander positions due to the nature of AFMC. The analysis revealed that 20 out of 96 officers, 20.8 percent, have been a division chief. Additionally, another 20 officers have served as Director of Contracting, which brings the total to 40 out of 96 officers, or 41.7 percent.

Summary

The preceding analysis was an assessment of the proposed research questions using the duty history data from contracting officer colonels as of 1 Apr 01. The analysis addressed each research question in addition to the overall model. The results in this chapter are objective and quantitative in nature. The next chapter integrates the analysis of the complete contracting career guidance with expectancy and goal theory to arrive at recommendations, which will eventually support or improve the current Air Force career guidance.

Table 23. Summary of Research Questions and Findings

Research Question	Finding
1. What proportion of officers conforms to the current Air Force career guidance?	14.6 percent of total officers conform to the total model if each of the levels is viewed as dependent on each other. 24 percent conformed to intervals 2, 3, 4, and 5. 47 percent conformed to intervals 3, 4, and 5. 78 percent conformed to levels 4 and 5. 82 percent conformed to just the final level of the pyramid. Finally, the highest single percentage noticed was conformance with the fourth level, or years 12 – 17, which was 91 percent.
2. What proportion of officers start their career as a contract specialist or similar position in either systems/support/logistics/laboratory/or operational contracting?	95.6 percent of those officers who start out in contracting do so in one of those mentioned positions. However, only 44.8 percent of total 64PX officers started out in one of those positions due to the individuals who cross-trained into the career field.
3. What proportion of officers has worked in each technical area of emphasis (pre-award, post-award, pricing) within their first two tours? (First 72 – 96 months of career)	8.3 percent had all three areas, while 32.3 percent had experience in pre- and post-award. This finding was limited due to the inaccuracy of many duty titles and the inability to derive exact experience from those duty-titles.

4. What proportion of officer has worked in each base level flight category during the first 8 years of service? (First 96 months of career)	During the analysis it was concluded that the information for this question was unavailable due to the fact that many of the base level flights that exist today simply didn't when these officers were in their first 8 years.
5. What proportion of officers has been a base level flight commander during the 4 to 10 year point? (Months 48 – 120)	13.5 percent had been flight commanders while the total rises to 26 percent if you include flight chief, branch chief, and section chief.
6. How much time has officers spent in each area of emphasis?	Again, the data for this question was unavailable due to inability to derive specific experience from duty-titles.
7. How many MAJCOMs have officers worked in?	The range varied between 2 and 8 MAJCOMs. The distribution was symmetric around 5 MAJCOMs and the average is 5.2 per officer.
8. What proportion of their career have officers spent in each MAJCOM?	Almost 50 percent of an officers' time will be in AETC and AFMC. Officers can expect to serve 10 percent of their time in DLA and a little over 5 percent of their time at HAF.
9. What is the proportion of officers that has worked within each MAJCOM?	98 percent of the officers served time in AETC, 93 percent served time in AFMC, while 61 percent spent time in DLA. Over 1/3 of the officers served at HQ AF and 14% spent time at the Office of the Secretary of Defense.
10. What proportion of officers has completed a career broadening tour?	50 percent of officers studied served in a career broadening tour during their career.
11. Of the officers that have completed a career broadening tour, what proportion did so during the 4 to 12-year point?	93.8 percent of the officers who completed a career broadening tour did so during the requisite period.
12. What proportion of officer has had a staff tour?	100 percent of the officers complete a staff tour at some point in their career.
13. What is the proportion of officers within each staff category?	The most popular staff categories were DLA (66%), support MAJCOM (52%), Center (52%), Headquarters Air Force (34%), and operational MAJCOM (23%).

14. What proportion of officers has completed an advanced academic degree?	100 percent have advanced academic degrees. 16.7 percent completed their degrees in-residence through AFIT. Only 17.7 percent have degrees in the field of contracting or procurement.
15. What proportion of officer has completed in-residence ACSC?	50 percent completed ACSC in-residence and 14.6 percent of those officers did so through a joint program.
16. What proportion of officers has completed in-residence AWC?	51 percent completed AWC in-residence and 57.1 percent of those officers did so through a joint program.
17. What proportion of officers has been a squadron commander?	5.2 percent were a squadron commander and one officer was a group commander.
18. What proportion of officers has been a division chief or Director of Contracting?	41.7 percent of the officers studied served as either division chief or Director of Contracting.

V. Conclusions and Recommendations

Introduction

This final chapter summarizes the results of the analysis completed in the preceding chapter and interprets the impact of those results on the contracting officer career field. Individual recommendations on the career guidance are based on the conclusions of the previous analysis and the theoretical framework presented in Chapter 2. Finally, suggestions are made for future research consideration.

Overall Test of the Career Pyramid

Conclusions. If the pyramid is presumed to be made up of five dependent levels, then the overall test of the career pyramid and career guidance reveals that 85 percent of exceptional contracting officers have not followed the Air Force Contracting Officer career guidance as spelled out in Figure 2, the Career Pyramid; and Table 4, the translation of the pyramid into duty titles and years. While a large portion of 64PX officers demonstrated conformity throughout their career to various sections of the pyramid, only 15 percent of the total officers examined showed a strong inclination toward overall career conformity. However, conformance tends to increase as each time interval (pyramid level) passes. That is, exceptional officers tend to conform more to the Air Force guidance once they reach the 12-year point. In fact, interval 4 (years 12 – 17) showed 91 percent conformity while officers conformed to intervals 4 and 5 in succession 78 percent of the time. The conclusion is that company grade officers can afford to "stray" from the recommended guidance and still maintain strong chance of becoming an exceptional officer. However, the longer an officer goes in his/her career,

the more he or she needs to get back on the track of the pyramid's recommended assignments.

Recommendations. As a comprehensive model, and considering the 64PX career field in totality, the career pyramid does not appear to reflect the empirical experience of the exceptional officer corps. Many of the officers have demonstrated an overwhelming potential to achieve an exceptional career by straying from the guidance early in their careers. Additionally, while over half of the officers studied entered the career field after the 4-year point, the likelihood of conformance increased during the latter time intervals. Therefore, Air Force guidance should be used by senior leaders as a career blueprint for both promotion and job assignments starting at the 12-year point. That is, increasing the probability of becoming a division chief, squadron commander, or director of contracting by following the career pyramid will also increase the valence of that outcome. To increase expectancy, the Air Force guidance should be amended in various places to account for the cross-flow of personnel into the career field from other career fields. Additionally, the upper tiers (3, 4, and 5) should be separated from the lower tiers (1, and 2) to highlight the importance of conformity later on in a career.

Breadth and Depth

Conclusions. Breadth and depth represent the extent and magnitude of experience within the 64PX career field. As stated in Chapter 4, 44.8 percent of the officers started their careers as contract specialists in either systems/support/R&D/or operational contracting. Discounting those officers who cross-flowed into the career field, 95.6 percent started in the recommended position. Additionally, while the duty-title

information was inconclusive with regard to pricing experience, 8.3 percent of the officers evaluated demonstrated conformity to all three areas (pre-award, post-award, and pricing) while 32.3 percent conformed to pre- and post-award only.

While it was impossible to evaluate the percentage of officers who worked in each base level flight category during their first 8 years, it was possible to note that 26 percent had been a flight commander, flight chief, branch chief, or section chief.

Recommendations. As stated in Chapter 2, the career guidance recommends building breadth and depth by working in all base level flights, becoming a flight commander (or equivalent), and working in a staff position. Again, since almost half of the officers studied started out in a previous career field, the pyramid should be adjusted as such. In doing so, a more accurate examination of the first 8 years of an officer's career can be accomplished. While it is completely impossible to gauge the actual flight-level experience of each officer without the examination of OPRs or other detailed methods, it would be unwise to recommend any sort of change to the breadth requirement until such an analysis can be undertaken.

Balance

Conclusions. The question of balance exists to determine the mix of time within base level flights and in the overall career. However, the data available was inconclusive with respect to pricing experience so the analysis of balance will require further research.

Recommendations. To correctly address the issue of balance, further research should be conducted by examining OPRs, or interviewing individual officers to capture the exact make-up of an officer's experience. Specifically, contracting leaders should

identify the exact mix of pricing, pre-award, and post-award experience necessary for Air Force leaders. Finally senior leaders and career advisors at AFPC should use the career guidance to properly allocate individuals to specific jobs

MAJCOM Experience

Conclusions. This section looked at the MAJCOM associated with each assignment. Figure 6 shows the range of MAJCOMs to be as little as 2 for one officer, all the way to 8 for four officers. The distribution is roughly symmetric and centered around 4 – 6 MAJCOMs. It can be noted that the average number of MAJCOMs served in per officer is 5.2.

The average amount of time spent within each MAJCOM is 5.1 years. As demonstrated in Figure 7, exceptional officers should expect to spend over 1/3 of their time in AFMC, and almost 1/2 of their career in either AFMC or AETC.

The last area looked at was the likelihood of serving in a particular MAJCOM. Figure 8 shows that almost 100% of the officers studied served in AETC at some point in their career, 93% served a tour in AFMC, and 61% served in DLA.

Recommendations. Air Force guidance recommends officers should work in as many different MAJCOMs as possible during their career. While this research was unable to determine the "ideal" number of MAJCOMs, all but 10 officers studied had served in at least 4 MAJCOMs and as many as 8. Air Force guidance should continue to recommend officers work in as many as possible, including specifically recommending assignments in AETC, AFMC, and DLA.

Career Broadening

Conclusions. Air Force guidance doesn't recommend that a career broadening assignment be done, however it does recommend that if it is to be done, it should be accomplished in the 4 – 12 year point. While only 50 percent of the officers studied participated in a career broadening tour, 93.8 percent of those individuals accomplished their tours in the 4 – 12 year point.

Recommendations. Air Force guidance should continue to recommend that career-broadening assignments be accomplished during the 4 – 12 year point. If contracting leaders truly believe that career broadening is necessary to create a well-rounded officer, and will help expand an officer's staff or command skills, they should amend the guidance to specifically recommend a career broadening tour during the 4 – 12 year point, instead of making it optional. Finally, senior contracting leaders and AFPC should use the occurrence of a career broadening tour to as a requirement for promotion or senior positions if career broadening is going to be important for contracting officers.

Staff Level Positions

Conclusions. This section analyzed the type of staff billets taken and the relative time spent in those positions. Air Force guidance states that staff jobs are critical to contracting officer career outcome. This research found that 100 percent of the officers studied held a staff job at some point in their career. The average number of staff positions each officer has held is 3.6. Additionally, Figure 9 shows that the three most common staff jobs were in DLA, support MAJCOMs, and at product centers.

Recommendations. Air Force guidance should continue to demand officers do a staff tour if they expect to become exceptional officers. The guidance could also include recommendations that officers work in DLA, support MAJCOMs such as AFMC, and at product centers. Additionally, the guidance should recommend that officers remain in those staff jobs for no more than 3 years. AFPC and senior leaders should insure that officers with the potential of exceptional careers are moved from their staff position before the 3-year point.

Education and PME

Conclusions. This analysis focused attention on advanced academic degrees, and in-residence PME. All 96 officers studied had completed an advanced academic degree, Air Command and Staff College, and Air War College in some fashion and at some point in their career. While participation was 100 percent across the board, the totals for in-residence and joint positions were a bit different. Figure 10 illustrates the fact that 17 percent of the officers studied completed their advanced academic degree through the Air force Institute of Technology. Additionally, 50 percent of the officers completed ACSC in-residence, of which 7 percent were through a joint program. Finally, 51 percent of exceptional officers completed AWC in-residence, of which 29 percent were of a joint nature. It should be noted that only 17.7 percent of the officers studied received their advanced academic degree in the field of contracting or procurement.

Recommendations. Air Force guidance should continue to suggest that academic and PME education are critical to contracting officer career outcome. However, the guidance fails to make any sort of recommendation as far as in-residence PME is

concerned, nor does the guidance state anything about the nature of the advanced academic degree. The recommendation is that senior contracting leaders take a look at the nature of the master's degrees held by contracting officers and that the guidance be amended to recommend a degree in the contracting or procurement career field, which is currently a standard of 24 hours for contracting civilians. Finally, if senior leaders would prefer officers to do PME in-residence, they would be wise to award those officers who do so with higher promotion rates or with key assignments.

Leadership

Conclusions. This section examined the various leadership positions available to contracting officers and whether or not those positions were necessary for promotion to O-6. From a junior officer standpoint, it was difficult to specifically tell whether or not an officer served in the capacity of a PCO and/or ACO, which is a sign of leadership potential. However, 10.4 percent of those officers did in fact have a duty title designated as PCO and/or ACO. However, as stated under Breadth and Depth, 26 percent of the officers studied served as flight chief, branch chief, and section chief at some point in their career.

Leadership during the Field Grade years was easier to measure. Of the 96 officers reviewed, 5.2 percent had served in the capacity of either a group or squadron commander. An additional 41.7 percent served in equally challenging positions such as Division Chief or Director of Contracting.

Recommendations. Air Force guidance states that leadership positions are critical to contracting officer career outcome. Well over half of the officers studied made it

through their careers without the occurrence of one of these specified leadership assignments. One of two things needs to be done. Air Force guidance should be changed to include a broader listing of leadership assignments, and AFPC and senior contracting members should specifically promote or give key assignments to those individuals who serve in the designated leadership positions. Finally, contracting leaders throughout the Air Force should take a look at the duty titles of junior officers and find some way to specifically assign leadership titles where leadership opportunities exist. This would again allow junior officers to seek out those jobs expecting to be rewarded at some point in the future.

Further Research

This research encountered many limitations with regard to data availability and subsequently instrumentality. A more valuable analysis would be to capture the exact experience of all the contracting leaders through the use of some sort of interviewing technique. This would allow for the proper examination of duty-titles and junior officer experience as well as the proper definition of an exceptional officer, and would even allow for senior leaders to share which of their experiences they felt were helpful in their career, and which they felt could be discarded from future careers.

Additionally, a comparison between exceptional careers of O-6's and those officers who failed to get promoted to O-6 should be accomplished. That analysis would be helpful in identifying the proper structure of a model to use for career guidance. This research should be accomplished by obtaining a random sample of O-5 data from AFPC

among those officers who were non-selected for O-6. This research can be conducted with the help of Major Ed White, AFIT/ENC.

Finally, this research effort should be duplicated by looking at only the population of 64PX officers who were in the career field from their first duty day. In other words, repeat this process but leave out the data from officers who cross-flowed into the career field. This would enable leaders to see exactly what kind of career pyramid was truly being followed by these officers. This kind of research would reveal the true nature of 64PX careers from beginning to end without the bias of other career fields. In other words, if the officers aren't following the recommended path, what path are they following?

Implications

This research has many potential benefits and applications. Senior leaders should use this analysis to make a change in the overall career pyramid to allow cross-flow officers the opportunity to receive career guidance from the moment they enter the 64PX career field. Additionally, this research provides senior contracting leaders with an initial overview of the broad and diverse experience within their ranks. By identifying this experience, key senior leaders and can more accurately create a future plan or framework to take the contracting officer career field through whatever changes lie ahead. Finally, 64PX leaders, in conjunction with personnel and manpower experts, should take a long look at current duty titles and make the necessary, specific, changes to improve the overall characterization of officers' careers.

Appendix A - Chapter 1 of the Officer Career Path Guide

1.1. Introduction. Today, Air Force officers have more responsibility for their careers than ever before. Their destinies are largely in their own hands and officers have to make important decisions about their careers earlier than ever before. Making such momentous decisions is no small matter. Officers, particularly those in the earlier stages of their careers, need help and guidance to steer them along the path that's best for them, and best for the Air Force. There is no magic formula to achieve a successful career in today's Air Force. An officer may take many paths during an entire career. The different paths taken build the many facets of an officer's professional development (OPD)--challenging assignments, formal training, promotions, leadership opportunities, staff experience, advanced and professional military education, etc.

1.1.1. Success is different for everyone. We each have our own sets of goals and our own aspirations, and in reality, not everyone progresses at the same rate or to the same level over the course of a career. Despite our very competitive promotion process, many officers conclude nothing short of promotion to colonel constitutes a successful career.

1.1.2. Although duty performance is one of the keys to success, another is education. All officers should appreciate the need for continuing professional military education (PME) and academic education throughout their careers. In this age of computers, new technologies, and exponential rates of change, staying educated and abreast of issues is difficult but more important than ever. Professional preparation encompasses far more than completing PME. The development of leadership skills requires a firm foundation based on professional reading, study of doctrine and employment of air and space power across the spectrum of conflict, and an understanding of national military strategy. Advanced education, most of it pursued at the appropriate point through off-duty methods, should enhance duty performance and technical competence. Getting a master's or doctoral degree for a degree's sake is not as important; education that complements your area of expertise is of higher value.

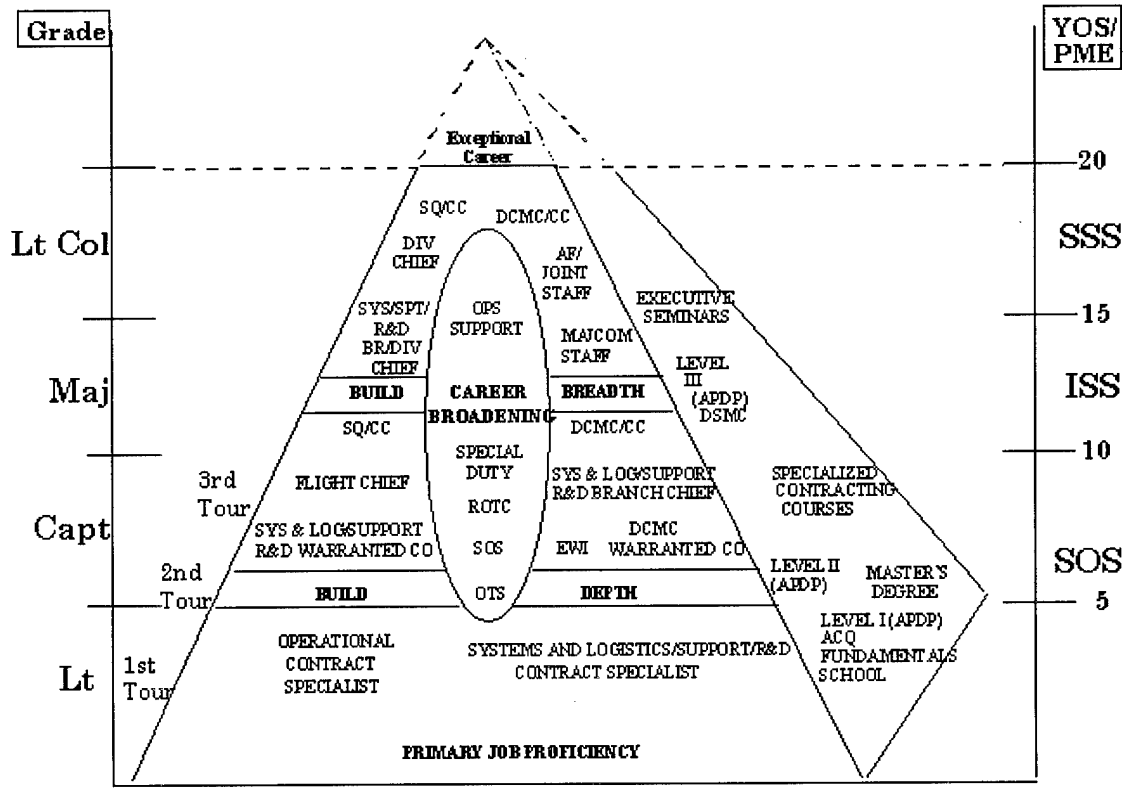
1.1.3. In the end, success means different things to different people, and there are numerous paths to success within each career field. The succeeding chapters in this pamphlet outline each career field in-depth and provide you with a framework to help achieve success in your Air Force career. Officers should discuss career aspirations, formulate career plans, and explore assignment opportunities with their commander. Communication between commander and officer is a critical component of the Air Force Assignment System (AFAS). Good luck in your Air Force career!

Appendix B - Chapter 5, Section 12 of the Officer Career Path Guide

4.12. Contracting Career Path. Future Air Force leaders will be comprised of those officers who demonstrate breadth and depth in their career field, show the ability to perform in high level staff jobs, to include joint positions, and prove their ability to lead. Your development as a future Air Force leader is an on-going process, and decisions made today will impact your future. It is imperative you work with your peers, supervisor, and most importantly your commander to get the best possible advice. The Air Force Assignment System gives you freedom in planning your future, but also the responsibility to balance Air Force needs with personal desires. Every person's career takes unique twists and turns, and there's no "school-approved solution." The key to what you'll see below--"bloom where you are planted." Do the best you can with each and every endeavor you take on, and the rest should fall into place.

4.12.1. Your commander or supervisor is available to guide and counsel you, but ultimately you must make the decisions. This career path guide should help you with those decisions. Figure 4.12 is the 64PX pyramid, which shows you the type of opportunities available in your career field.

Figure 5.12



4.12.2. When initially assigned to contracting you are expected to build depth through technical experience within the career field. The contracting career field has three technical areas of emphasis: Pre-award, post-award, and pricing. Pre-award includes acquisition planning, analysis of purchase requests and technical documents for suitability, and determining the proper contracting method and type. Further, it encompasses solicitation, evaluation of offers, including cost and price analysis, contractor responsibility and responsiveness, selection of contract source, contract assembly and award. Post-award entails administration of contracts to ensure contract compliance, modification negotiation, and termination actions for convenience of the government or for default. Pricing includes in-depth cost and price analysis, evaluation of offers and support for source selections and contract award, as well as support for logistics and modification.

4.12.2.1. There are four mission elements which have unique requirements: Operational, systems, laboratory, (or research and development), and logistics support. Operational contracting includes the maintenance and support of all Air Force installations worldwide. Systems contracting encompasses the acquisition and support of air, space, missile, and electronic systems throughout the Air Force. Laboratory contracting involves state-of-the-art research and development on past, present and future Air Force programs. Logistics contracting supports delivered systems by maintaining and equipping personnel and providing maintenance and spare parts.

4.12.2.2. These technical areas and mission elements are accomplished through various commands and agencies. All Air Force commands include the full spectrum of operational contracting which covers the pre-award and post-award technical areas. In addition to operational contracting, Air Force Materiel Command (AFMC) also includes systems, laboratory (research and development), and logistics support, which covers the pre-award and pricing technical areas. The Defense Logistics Agency (DLA) includes logistics support and administration and covers the pre-award and post-award technical areas.

4.12.2.3. To experience the full breadth of these opportunities in sufficient depth a minimum of two, normally three, Permanent Change of Station (PCS) moves are required. When contemplating such a move, keep in mind a balanced approach to professional development (i.e., if you spent the last assignment in a buying position, then seek opportunities on the contract administration side). *NOTE:* By law, certain contracting certifications must be attained at the appropriate time in order to hold acquisition positions.

4.12.3. The technical foundation you build early in your career pays great dividends as a staff officer. Staff billets above the wing level are prevalent in every major Air Force command and some joint agencies such as the DLA. Your attractiveness as a staff officer to a command will depend greatly on your experience and performance.

4.12.3.1. In addition to contracting staff positions, a limited number of staff billets can be found outside the career field. These opportunities include serving as an instructor in Reserve Officer Training Corps (ROTC), Basic Military Training, Officer Training School (OTS), Squadron Officer School (SOS), recruiting service, or the United States Air Force Academy (USAFA).

4.12.3.2. Current trends in support officer assignments show that at some point in their career, officers may perform a career broadening assignment. These operations support and special duty assignments are opportunities for officers to expand their staff or command skills and build breadth to their career.

4.12.3.3. About 20 percent of those officers selected for major will be identified as candidates for resident Intermediate Service School (ISS). Many ISS students will go to a challenging joint-duty staff assignment, commander, MAJCOM, or Air Staff level job upon graduation. Officers not afforded the opportunity to attend Professional Military Education (PME) in residence should complete PME by correspondence or seminar to remain competitive in their Air Force career progression.

4.12.4. There are numerous opportunities for leadership within the contracting career field. Junior officers can be functional team leaders as procuring and administrative contracting officers. As senior captains and majors, officers can compete for operational contracting squadron commander billets. These positions provide excellent opportunities to manage and lead a unit. Within product centers, officers can be chiefs of contracting divisions in System Program Offices (SPO) supporting major systems procurement.

4.12.4.1. After successfully completing a leadership tour, officers selected for lieutenant colonel or colonel will have the opportunity to vie for in-residence attendance at Senior Service School (SSS). Upon graduation, many officers are assigned to the Air Staff or joint-duty billets. Senior positions like the director of contracting at major product centers or commander at a Defense Contract Management Command Office within DLA are available for a select group of senior officers.

4.12.4.2. This narrative does not suggest that all contracting officers should strive to be the next Deputy Assistant Secretary for Contracting, or that there is only one ideal path to that level. However, experience indicates that a successful Air Force contracting career normally includes a strong technical base, solid staff experience, and challenging leadership positions. Product center positions, squadron command, joint duty, and an Air Staff tour appear to be essential building blocks for promotion to senior contracting positions. Whatever your goals, the often-used phrase still holds true: How well you do in your current job is the most important factor in determining your future success.

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Vita

Captain William Elyea was born in Lubbock, Texas graduated with honors from R. Nelson Snider High School in Fort Wayne, Indiana. He entered undergraduate studies at Purdue University in West Lafayette, Indiana where he studied Aviation Technology while earning his Private Pilot's license. He graduated from Indiana University in Bloomington, Indiana, with a Bachelor of Science degree in Finance. He was commissioned through Officer Training School on 3 May 1994.

His first assignment was at RAF Mildenhall, England as the 100th Operations Group Executive Officer. In December 1995 he was assigned to the 351st Air Refueling Squadron as the Squadron Section Commander. In February 1996 he deployed as Chief of Support for Operation DECISIVE ENDEAVOR in Istres, France. Upon his return to the United States he served as Squadron Section Commander for the 58th Maintenance Squadron, 58th Special Operations Wing, Kirtland AFB, New Mexico. While in Albuquerque, he cross-trained into the Contracting career field and served in a myriad of positions in the Air Force Research Laboratory culminating as the Deputy Branch Chief for Services. In August 1999, he entered the Graduate School of Engineering and Management, Air Force Institute of Technology. Upon graduation, he will be assigned to the Space and Missile Systems Center, Los Angeles AFB, California.

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14. ABSTRACT

Air Force contracting officers rely on published guidance to assist in establishing their career objectives. This thesis uses empirical data to evaluate the published Air Force career guidance. The data set is comprised of complete duty histories from all active duty colonels, colonel selects, and general officers in the contracting career field. The guidance implies a career path to an exceptional career but provides no empirical validation.

This thesis follows a rigorous procedure to objectively evaluate the Air Force guidance. The guidance is translated into 18 research questions based on its main tenets. Each duty occurrence is categorized by type of position, associated MAJCOM, staff category, education level, career broadening, and leadership level. The results suggest that officers in the data set exhibit conformance to the latter intervals of the comprehensive career guidance. However, conformance with individual tenants of the guidance varies depending on when the officer came into the contracting career field and how the duty occurrences were categorized.

15. SUBJECT TERMS

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