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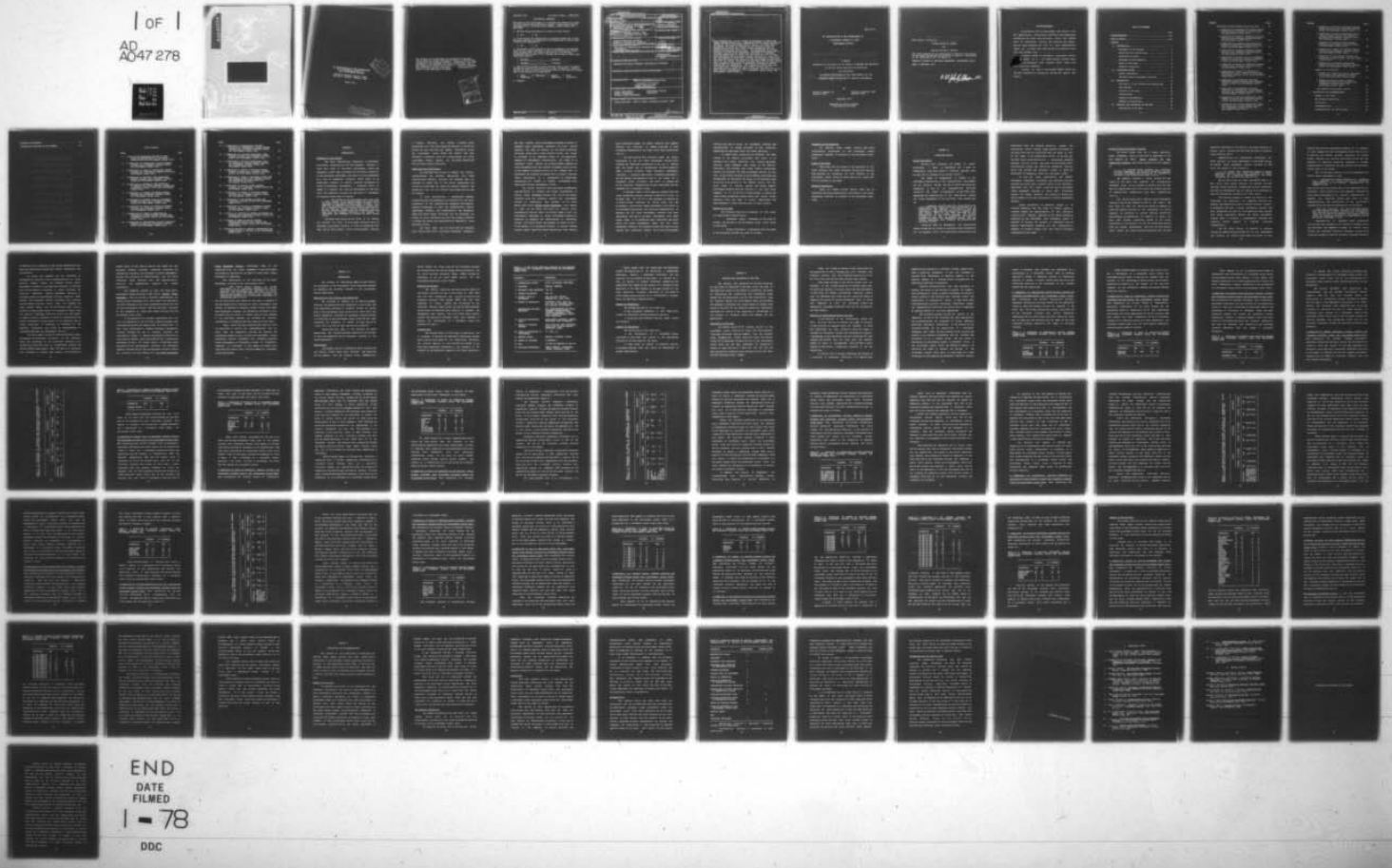

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AN INVESTIGATION OF THE DETERMINANTS OF A SUCCESSFUL CAREER AS A USAF PROCUREMENT OFFICER

Gerald W. Haynes, Captain, USAF
William H. Herbert, Captain, USAF

LSSR 5-77B

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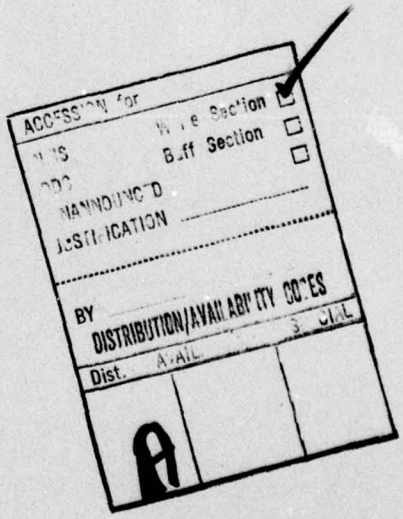

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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: AFIT-LSSR-5-77B	2. GOVT ACCESSION NO.
	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): AN INVESTIGATION OF THE DETERMINANTS OF A SUCCESSFUL CAREER AS A USAF PROCUREMENT OFFICER.	5. TYPE OF REPORT & PERIOD COVERED: Master's Thesis
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Gerald W. Haynes, Captain, USAF William H. Herbert, Captain, USAF	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Graduate Education Division School of Systems and Logistics Air Force Institute of Technology, WPAFB	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: Department of Research and Administrative Management AFIT/LSGR, WPAFB OH 45433	12. REPORT DATE: Sep 77 13. NUMBER OF PAGES: 68 (12) 81p.
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

APPROVED FOR PUBLIC RELEASE AFR 190-17.

JERRAL F. GUESS, CAPT, USAF
Director of Information

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Career Development
Career Progression
Officer Career Management
Procurement Officer
Promotions

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Thesis Chairman: John R. Adams, Lieutenant Colonel, USAF

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This research was a first attempt to determine if there were common success factors for a successful career within the United States Air Force procurement officer force. If these factors did exist, and could be identified, they could be used for presenting a visable and viable career progression plan to officers within the career field. Two populations of officer briefs were selected for analysis. One population consisted of colonels, and the other population consisted of lieutenant colonels passed over at least once for promotion, all of whom were serving in the procurement career field as of 1 April 1977. For the purpose of this study, success was defined as attaining the grade of colonel and serving in the procurement career field while in that grade. Selected variables from the two populations were compared to determine if meaningful differences existed between the two populations. The findings of this study were that meaningful differences were present between the two populations with regard to twelve variables, and these variables were labeled "determinants" of a successful career within the procurement career field.

LSSR 5-77B

AN INVESTIGATION OF THE DETERMINANTS OF A SUCCESSFUL CAREER AS A USAF PROCUREMENT OFFICER

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Logistics Management

By

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September 1977

This thesis, written by

Captain Gerald W. Haynes

and

Captain William H. Herbert

has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT (PROCUREMENT MAJOR)

DATE: 7 September 1977

Lt. Col. John R. Adams, PhD
COMMITTEE CHAIRMAN

ACKNOWLEDGEMENTS

We primarily wish to acknowledge, with sincere love and appreciation, the patience, assistance and inspiration provided by our wives, Judy and Susan, during the endless hours of researching, writing and rewriting this thesis. Also we thank Stephanie and Alex for their understanding "Daddy has to study" when they wanted his attention during this long academic year.

A special thanks is extended to Lieutenant Colonel John R. Adams, Ph D., our thesis advisor, without whose guidance and assistance this research effort could have never have been completed.

Finally, we wish to acknowledge CREATE, whose help has been invaluable in formatting, editing and typing this thesis.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The Joint Congressional Commission on Government Procurement, established by the 91st Congress, conducted a three year study of government procurement, which was completed in 1973. They concluded that the future capability of the government procurement work force is being endangered by a lack of managerial attention. While there is an exceptional resource of quality personnel throughout all levels of government procurement, a concerted effort is needed to organize and plan the development of this work force. The commission stressed the importance of developing an organized career plan by stating:

> . . . the actions of the procurement work force have a major impact on the effectiveness with which about one fourth of the annual Federal budget is spent. It is important to emphasize that procurement in Fiscal Year 1972 involved nearly 16 million separate transactions. No rule book can provide precise directions for 16 million separate transactions; the personnel executing them must be trained, qualified, and capable of exercising good judgement in carrying out their duties [2:46].

One basic task facing the Air Force is to develop and maintain its share of this highly qualified force of government procurement officers. In order to accomplish this task, the Air Force needs to offer its procurement officers

a logical, desirable, and success oriented career progression plan. This plan should be designed to retain and promote the most qualified and capable individuals within the procurement career field. The factors that help determine a successful career as a United States Air Force procurement officer, however, are relatively unknown and have not been clearly identified.

Background and Justification

An individual must be able to combine his ability, aggressiveness and personal aspirations with those organizational channels, policies and programs that are designed to assist him in his career progression. His ability to blend these two areas will greatly influence the probability that he will achieve those goals that he sets for himself.

In large organizations, a systematized manpower program provides the parameters and structure for the career progression of the organization's managers. This manpower program is developed to plan the organization's forward replacement schedule. The organization's top management hopes that future vacant positions can be predicted and filled by those individuals who have been properly prepared to accept the duties and responsibilities demanded by these positions (9:351).

The Army, Navy, and Air Force have all reflected their concern about their individual replacement schedules,

and have created career development programs to assist in managing these replacement schedules (12,14,15). Morris Janowitz, the dean of authors in the field of military sociology, states that in each military service the career is grounded in an idealized notion of the appropriate sequence of assignments. Theoretically, the steps of a successful career consist of rotation between command and staff assignments with the ultimate assignment being service in the command or planning section of the command post in Washington. He continues by saying that in reality, the more likely description is a progression of educational experiences, as a teacher or student, interspersed with operational military assignments (4:126).

The United States Air Force has spent considerable time and effort in creating and firmly establishing an officer career management program (12). One of the outputs resulting from the intensive research and development exerted in formalizing this program is Air Force Manual (AFM) 36-23, Officer Career Management. This manual is used as the basis and guide 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 effectiveness in performing current and future duties. The purpose, as stated in Part I of the manual, is to stimulate officers to pursue planned careers within specified career specialties, thus insuring

that a sufficient number of highly qualifed and capable officers are available to assume positions of ever increasing responsibility and scope within those specialties (12:1-1).

Air Force Manual 36-23 includes a model for Career Progression of the Air Force procurement officer which outlines the "idealized" progression to the top. It 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 a successful career (12:24-25). AFM 36-23 is general and allows individual interpretation of what constitutes the mix necessary for a successful career.

A possible result of this apparent weakness with the career progression pattern outlined in AFM 36-23 is that in calendar year 1977 (CY 77) it was necessary to identify up to twenty colonel selectees for initial entry into the procurement career field. These individuals, with little or no procurement background, were given the responsibility of managing the Air Force procurement resource (7:6). More importantly, the need to use these individuals from other career areas is an indication that a deficiency may exist within the career progression model for Air Force procurement officers. The guidance in AFM 36-23 may not have insured that sufficient numbers of Air Force procurement

officers were able to attain the neccessary training and qualifications to assume positions of ever increasing responsibility and scope within the career specialty.

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 judgement with regard to the quality, efficiency, and economy with which Federal procurement actions are initiated. The USAF procurement officer is a key link in the overall process by which Federal objectives are accomplished. He represents the source of all materials used in the Air Force portion of the Federal sector. The Air Force needs to attract, qualify and retain capable procurement 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.

Definition of Terms

The following terms for the purpose of this study are operationally defined below:

Successful Career - attainment of the grade of colonel, and serving in the procurement career field while in that grade.

Career Progression - progressing from the grade of 2nd lieutenant through the grade of colonel.

Statement of the Objective

To identify those common factors that have significantly contributed to the successful career progression patterns of colonels in the procurement career field.

Scope of the Study

This study will be limited to the population of Air Force Colonels and those Lieutenant Colonels who have not been selected for promotion. All such officers in the procurement career field on active duty as of 1 April 1977 will be involved in the study.

Research Proposition

There are common success factors which can be identified that have significantly contributed to the career progression patterns of colonels in the procurement career field.

CHAPTER II

LITERATURE REVIEW

Career Progression

William Scott presented two models of career progression, a model of Dependence and a model of Independence. They each exhibit a different approach that one may take to progress in his career (8:376).

The "Model of Independence" is focused on the individual's sensitivity to the organization's environment and his ability, through the use of social and political expediency, to move up the organizational hierarchy (8:376-77). The "Model Of Dependence", on the other hand, emphasizes the responsibility of the organization towards the career development of the individual. Scott states this as:

> . . . progress, vertical mobility, takes place along established career lines which have been evolved in an organization. The emphasis in this model is upon the individual's compliance with promotional channels and time tables. While he has some lattitude for self determination of his career progress, the crucial strategy on his part is discovering the nature of promotional lines, the sponsorship system, and the rituals associated with climbing the organizational hierarchy [8:376].

Using the "Model of Dependence", the organization should accomplish two things in providing career progression for its managers. First, the organization should select the

individuals with the greatest potential. Second, the organization should develop these selected individuals to the point that they are fulfilling their own needs as well as the needs of the organization (6:332). To provide such services larger organizations have a centralized manpower planning activity (3:113). From this activity should evolve the structure, policy, and day-to-day managerial behavior which will provide the necessary climate in which the development of managerial talent can take place (2:202).

As with any large organization the Federal Government, Department of Defense, and individual military services are faced with a constant influx of new personnel. Associated with this influx comes the task of developing career management programs to insure that individuals receive the proper education and training to develop the skills needed to fill the organization's forward replacement schedule.

Career progression is primarily thought of as vertical mobility, and the focus of today's system is oriented toward the specialization of the individual (12:8-1--53-5). Equally important is the career broadening potential of the individual. This horizontal growth is designed to provide the breadth of experience and the general understanding necessary for the organization's managers to achieve higher rank and jobs of increasing responsibility and scope.

Military Career Development Programs

The United States Army has a rather definitive career management system as described by Department of the Army Pamphlet No. 600-3, Career Planning for Army Commissioned Officers. The stated objective of this pamphlet is:

> . . . to provide broad guidance for individual officers, commanders, and personnel management agencies in career development and utilization of commissioned officers in the United States Army [14:7-1].

The pamphlet presents a career pattern for each branch of the Army. The patterns are chronological "pathways" which can be followed by officers from the time they are commissioned until they attain the highest position of responsibility commensurate with their capabilities (14:7-3).

The United States Navy's Officer Career Development Program is not as well defined as that of the Army's. The Navy does not have one particular manual or pamphlet to guide the program, but most of the information on career planning is available in various official directives, publications, and newsletters. In addition to these, the Navy does provide counseling related to the career progression of its officers. So that the counselling service does not become overburdened, there are two Navy manuals which answer the career planning questions that are most

frequently addressed by the officers. One manual pertains to surface junior officers and the other pertains to aviation junior officers (15:1).

Responsibility for implementing established Air Force policies for career development is performed through the Officer Career Management program, outlined in AFM 36-23. The purpose of this program is

> . . . to insure that sufficient numbers of highly qualified officers are always available to assume positions of increasing responsibility and scope throughout the Air Force and DOD [12:1-1].

The Air Force also has career progression models in AFM 36-23. This manual outlines the desired military training, formal education, professional military education, and level of assignments that are implied to be necessary to lead one successfully through an Air Force career.

This program attempts to combine the efforts of the individual, his supervisor, his commander, the major air command, and Headquarters USAF to develop officers' careers. To accomplish this goal, a career progression pattern has been established for each Air Force Specialty Code. Through this career progression pattern the career development program seeks to produce a knowledgeable, competent and versatile officer capable of handling increased responsibility.

The Air Force officer is expected to progress through the opportunities provided him by his assignments and training. An officer should begin his career in lower

echelon jobs and move progressively upward; as he advances in rank, command and staff assignments should follow (1:4). In addition, job rotation provides experience in related fields. Officers are shifted from staff to line and from technical to executive positions, providing a broader understanding of situations that may confront the developing officer later in his career.

One of the basic tenets of Air Force management and officer career development is that

> . . . developing Air Force officers,i.e., promoting their competency to perform tasks of ever increasing responsibility, is an inherent responsibility of command [13:36].

Thus the Air Force has placed some of the responsibility for developing future officers with the commander. Although Air Force career development is an inherent responsibility of command, the individual officer must share in these responsibilities. The significance of the individual's responsibility can best be described by the following:

> Both the individual and the procurement manager must participate in career planning for progression. Each employee has his own potential level of competence which can and should be achieved. This planning will be useful as a frame of reference in establishing training and career development [11:5].

Responsibility to implement career progression policies has been assigned to all echelons of command and to the individual. The commander is tasked to monitor career actions and establish effective programs, as well as to orient and provide on-the-job training to assigned officers.

In addition, he is required to seek career opportunities for deserving individuals through work related experiences and job rotation.

To assist the commander and the individual in satisfactorily fulfilling their responsibilities, Air Force policies support formal and informal officer career development. Academic and professional education in military and civilian schools is provided to assure technical and executive competence. General management education is provided through the professional military education (PME) program. The principal schools providing this training include Squadron Officer's School (SOS), Air Command and Staff College (ACSC), and Air War College (AWC), while a plethora of specialized schools are designed to impart more job specific knowledge. Selection criteria for each school is based on tenure, promotion or selective identification by boards. Attendance at these schools is not mandatory, but is highly encouraged. If attendance in residence is not possible, completing the course by correspondence is considered desirable for advancement (10:1-2).

The final aspect of the Air Force program for career development is performance evaluation. As the individual meets the challenges of his particular position, he is periodically evaluated. This is accomplished through the Officer Effectiveness Report (OER). The OER is an evaluation tool intended to provide some measure of the officer's

overall value. It will also be used as the basis for all personnel actions including promotion, selection for professional education, and placement in future assignments. Through this evaluation of "effectiveness", the Air Force identifies those officers with the characteristics, potential, and capabilities, required for career progression.

The immediate problem is that the basic career progression concept outlined in AFM 36-23, Officer Career Management, does not provide a detailed, comprehensive, and visible career development plan. This seems to be especially true when considering the career progression pattern for the Air Force procurement officer. This may have been indicated by the necessity to cross train twenty colonels into the procurement career field.

It is apparent that a dynamic organization with the size and complexity of the Air Force requires managers with outstanding potential and capabilities. An integral part of most large organization's manpower programs is managerial training. Through the use of training programs the organization wishes to improve the manager's abilities in such areas as reading, group participation and organization operations (9:351). No single source is available which expresses all the philosophies, policies, and procedures needed to develop the Air Force procurement officer's skills and abilities. Air Force Manual 70-2, Air Force Procurement

Career Management Program, establishes some of the responsibilities for career management in the procurement and production specialties, but does not cover these topics thoroughly or completely.

The relationship of the individual to his career development is stated in Air Force Manual 36-23:

> . . . each officer should consider his career development as an individual responsibility. The Air Force will provide guidance and assistance in career planning, but the officer must take the initiative to work out his problems and achieve the knowledge and capabilities needed to hold a successful progression of challenging jobs [12:6-1].

The Air Force wants each officer to know what is expected of him and expects him to forecast his career development. Each officer is expected to logically create a career plan based upon counseling, guidance, and information available to him, He should plan his career in a manner that not only responds to his individual desires, but provides for realistic consideration of immediate and long range Air Force needs.

There exists one major problem which does not allow the individual to fulfill his responsibilities. The Air Force does not necessarily provide the guidance and information needed to plan a logical and "succssful" career progression pattern. Throughout the literature regarding career development, an individual's career is "indicated", "implied", or "outlined" in one manner or another; but, there does not exist a firm, concrete example of successful career progression.

CHAPTER III

METHODOLOGY

The problem of identifying common success factors for progression in the Procurement Career Field was analyzed by examining the personnel records of two procurement officer populations.

Description of the Universe and Populations

The universe is defined as all USAF procurement officers. Two populations were considered in this study. The first population consisted of colonels serving on active duty in the procurement career field as of 1 April 1977. The second population consisted of lieutenant colonels serving on active duty in the procurement career field who had been considered for promotion to colonel at least once as of 1 April 1977, but had not been selected for promotion.

Census data were used in the analysis of these populations. The records analyzed consisted of 89 colonels in the first population and 64 lieutenant colonels in the second population.

Data Sources

The primary source of information about colonels was the officer briefs which were obtained, less names and service numbers, from the Colonels Group, Headquarters,

United States Air Force. Data for the lieutenant colonels was obtained from the officer career briefs provided by the Air Force Military Personnel Center (AFMPC) through the assistance of the Air Force career monitor for the Procurement/Production career fields.

Validity of the Data

The officer briefs are the most accurate source of information available for use in this study (5). This data base has been accumulated over a period of years in the Automated Personnel Data System (APDS) and has been subjected to yearly reviews and corrections by the individual officers. These briefs are used by USAF personnel action boards to determine which officers to promote, the assignments they receive, and in all other career control actions. The particular variables which were analyzed in seeking the determinants of a successful career are presented in Table 1.

Criteria Test

The primary effort in this study is exploratory and is intended to describe the meaningful differences between and/or similarities among the two populations. Therefore, the criteria applied to each variable was whether or not there was a meaningful difference in the presence of the variable in one population compared to the other population.

TABLE 1. A LIST OF THE VARIABLES ANALYZED TO FIND POSSIBLE DETERMINANTS OF A SUCCESSFUL CAREER WITHIN THE PROCUREMENT CAREER FIELD

VARIABLES	CATEGORIES
1. AERONAUTICAL RATING	PILOT, NAVIGATOR, NON-RATED
2. COMPONENT	REGULAR, RESERVE
3. SECONDARY ZONE PROMOTION	YES, NO
4. COMMAND ASSIGNMENT	YES, NO
5. HIGHEST LEVEL OF ASSIGNMENT	DOD, HQ USAF, MAJCOM NUMBERED AF, WING, BASE
6. SOURCE OF COMMISSION	ACADEMIES, ROTC, ROTC DG, OCS, OCS DG, AVIATION CADET DP CIVILIAN, DP MILITARY
7. PROFESSIONAL MILITARY EDUCATION	SOS CORRESPONDENCE,SOS RESID, INTERMED CORRESPONDENCE, INTERMED RESIDENCE, SENIOR LEVEL CORRESPONDENCE, SENIOR LEVEL RESIDENCE
8. CIVILIAN EDUCATIONAL LEVEL	HIGH SCHOOL, BACHELOR, MASTER, DOCTORATE, EDUC W/INDUSTRY
9. SOURCE OF ADVANCED DEGREES	AFIT CIVILIAN, AFIT RESIDENCE, MINUTE MAN, TUITION ASSIST, BOOTSTRAP, OTHER
10. YEARS OF EXPERIENCE IN PROCUREMENT	$0 < YRS \leq 12$
11. MARITAL STATUS	MARRIED, DIVORCED, SINGLE
12. NUMBER OF CHILDREN	0 THROUGH 8
13. AGE	38 YRS OLD THROUGH 56 YRS OLD
14. RELIGIOUS PREFERENCE	ROMAN CATHOLIC, PROTESTANT, JEWISH, BUDDHIST, OTHER

Since census data are being used, any difference between the populations is, by definition, a significant difference. However, a meaningful difference, and one practical for the purpose of this study, is defined as a nine (9) percent or greater difference between the two populations when comparing the category of a variable in one population to the same category of the same variable in the other population. Variables identified by this study as being common success factors can be investigated in greater detail by additional research efforts.

Summary of Assumptions

The assumptions made in this study are:

1. The variables considered in this study truly reflect an individual's career progression pattern.

2. Historical data obtained from the career briefs are accurate.

Summary of Limitations

The limitations of this study are:

1. Any determinants of a successful career identified in this study are limited to the populations selected as the data base for the study.

2. This study is limited to a specific time for procurement officers only and cannot be generalized to broader applications.

CHAPTER IV

ANALYSIS AND DISCUSSION OF THE DATA

The analysis and discussion of the data collected for this study is organized in two ways. First, the data is described with regard to the method of collection, the means of determining the similarities and differences found between the two populations, and the data organization used for analysis. Second, the relationships among the variables are examined to determine the overall amount of support that exists in the data for the research proposition. Statistical techniques are limited to the comparison of percentages of the presence of variables within and between the two populations.

Description of the Data

The officer briefs of 89 colonels serving in the procurement career field as of 1 April 1977 were obtained, less names and social security numbers, from the Colonels Group, Headquarters, United States Air Force. The officer briefs of 64 lieutenant colonels serving in the procurement career field who had been considered for promotion to colonel at least once as of 1 April 1977 but who had not been selected for promotion were obtained from the Air Force Military Personnel Center (AFMPC).

These two groups of officer briefs constituted the two populations of data. Although they were obtained from different sources, they were formatted identically on the Air Force Form 1715 and are both official USAF records.

Some items included in the officer briefs were not analyzed. It was neither practical to analyze every item, nor would the analysis of certain items have been meaningful in this study. For example, professional specialty courses were not addressed since there was not a practical means of comparing the myraid of courses documented, many of which were completed by only one individual within the populations. Assignment preference data was not analyzed for the same reasons.

Analysis of Relationships Within the Data

In the analysis of the relationships within the data, the first step was to tabulate the number of officers in each variable by category within the variable. A table was constructed for each variable in which the number of colonels and lieutenant colonels were displayed by category. A percentage of each population was then calculated for each category and entered into the table after the absolute number to which it corresponded. This provided a visual display to facilitate a comparative analysis of the two populations.

A nine per cent or greater difference was defined as a practical or meaningful difference to be applied when

comparing each category of a variable between populations. From a practical standpoint, it was also necessary to consider large differences in absolute numbers, or the complete absence of a category within one population, in identifying meaningful differences.

Selected crosstabulations were also performed to analyze the effect of one variable on another. For example, since aeronautical rating is present throughout an officer's career, several of the variables were analyzed within the subdivisions of aeronautical rating. In some cases these crosstabulations uncovered meaningful differences between the subpopulations which were not obvious from a comparison by category between the two total populations.

The following analyses include the results of the comparison of each of the variables and, where appropriate, the crosstabulations are displayed to further emphasize additional meaningful differences. In the analysis of the variables between the two populations, if a meaningful difference was found and the presence of the variable was greater in the colonels' population, then the variable was considered to be a success factor, and was called a determinant of a successful career. A successful career in the procurement career field was defined in Chapter I as attaining the grade of colonel, and serving in the procurement career field while in that grade. If a large percentage of both populations possessed a specific category

within a variable, that variable was considered as a prerequisite to a successful career. That is, anything required to become a lieutenant colonel is necessarily required to become a colonel, though there may not be any significant difference in the percentage of the variable between the two populations.

A comparison of aeronautical ratings between colonels and lieutenant colonels within the procurement career field. When considering the variable "Aeronautical Ratings", meaningful differences did exist between the two populations (Table 2). When the category "pilots" was examined it was found that 36% of the colonels were pilots, while only 27% of the lieutenant colonels were pilots. Meaningful differences did not exist within the other categories. There was an eight per cent decrease from the number of non-rated lieutenant colonels, compared to the number of non-rated colonels.

TABLE 2. A COMPARISON OF AERONAUTICAL RATINGS BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
PILOTS	32	36	17	27
NAVIGATORS	27	30	20	31
NON-RATEDS	30	34	27	42

These findings appear to indicate that being a pilot was a determinant of a successful career within the procurement career field. It may also be assumed that the increase in the percentage of pilots within the colonels' population is primarily at the expense of the non-rated category, as the navigators' category percentage remained relatively constant.

A comparison of types of commissions between colonels and lieutenant colonels within the procurement career field. When considering the variable "Types of Commissions", meaningful differences did not exist between the two populations (Table 3). Essentially all of both populations held regular Air Force commissions. Of the 89 colonels, 100% held regular Air Force commissions. Of the 64 lieutenant colonels, 63 or 98% held regular Air Force commissions. One lieutenant colonel held a U.S. Air Force Reserve commission, with the reserve grade of colonel.

TABLE 3. A COMPARISON OF TYPES OF COMMISSIONS BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
REGULARS	89	100	63	98
RESERVES			1	2

There appears to be no indication that "Types of Commissions" was a determinant of a successful career within the procurement career field. However, it does appear that because essentially all of both populations held regular Air Force commissions, a regular commission is one prerequisite of a successful career within the procurement career field.

A comparison of secondary zone promotions between colonels and lieutenant colonels within the procurement career field. When considering the variable "Secondary Zone Promotions", meaningful differences did exist between the two populations (Table 4). There were no meaningful differences based on the percentage of occurrence of secondary (below the zone) promotions between the colonel and lieutenant colonel populations. However, in absolute numbers, there were seven secondary zone promotions within the colonels' population, and only one secondary zone promotion in the lieutenant colonels' population. This was termed a meaningful difference.

TABLE 4. A COMPARISON OF SECONDARY ZONE PROMOTIONS BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
SECONDARY PROM	7	8	1	2

It appears that having obtained a secondary zone promotion is advantageous to a successful career within the procurement career field, and it was a determinant of a successful career based on actual occurrences within the two populations.

The variable "Secondary Zone Promotions" was crosstabulated with the variable "Aeronautical Rating" (Table 5). When the data was analyzed within the subdivisions of aeronautical ratings, the absolute numbers were too small to draw meaningful conclusions. It is noted, however, that secondary zone promotions may be one way available to non-rated as well as rated officers of increasing their chances of a successful career in the procurement career field. Five of the non-rated colonels had received secondary zone promotions, while none of the non-rated lieutenant colonels had received a secondary zone promotion.

A comparison of command assignment between colonels and lieutenant colonels within the procurement career field. When considering the variable "Command Assignment", meaningful differences did exist between the two populations (Table 6). When the results of the data comparison were analyzed it was found that a meaningful difference did exist in the number of colonels that had held command assignments, compared with the number of lieutenant colonels that had held command assignments.

TABLE 5. A COMPARISON OF SECONDARY ZONE PROMOTIONS BY AERONAUTICAL RATING BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	PILOT				NAVIGATOR				NON-RATED			
	COLONEL		LT.COLONEL		COLONEL		LT.COLONEL		COLONEL		LT.COLONEL	
CATEGORIES	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%
SECOND PROM	2	6	1	6					5	17		

TABLE 6. A COMPARISON OF COMMAND ASSIGNMENT BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
COMMAND ASSIGN	37	42	17	27

These command assignments represent the last 11.25 years as of 1 April 1977, and include periods of time when many of the colonels were still lieutenant colonels. This appears to indicate that having held a command assignment was a determinant of a successful career within the procurement career field.

A comparison of highest level of assignment between colonels and lieutenant colonels within the procurement career field. When considering the variable "Highest level of Assignment", meaningful differences did exist between the two populations (Table 7). There was a meaningful difference between the populations when the category of "Headquarters USAF" was examined. Headquarters USAF was the highest level of assignment for 43% of the colonels while only 23% of the lieutenant colonels had served at this high a level. Conversely, when the category "Numbered Air Force" was examined, 41% of the lieutenant colonels had worked at no higher than that level, while 28% of the colonels had attained only that level of assignment. Eight per cent of

the lieutenant colonels had been assigned to positions no higher than wing or base level, but all colonels had been assigned to positions above the wing or base level.

TABLE 7. A COMPARISON OF HIGHEST LEVEL OF ASSIGNMENT BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
DEPT OF DEF	1	1		
HQ USAF	38	43	15	23
MAJCOM	25	28	18	28
NUMBERED AF	25	28	26	41
WING			2	3
BASE			3	5

These data reflect assignments for the last 11.25 years, and include assignments when many of the present colonels were lieutenant colonels. This appears to indicate that having attained an assignment at the Headquarters USAF level was a determinant of a successful career; while if the highest level of assignment attained was Numbered Air Force or lower, it was a detriment to a successful career. Generally, the higher the level of assignment, the better were the chances of a successful career.

<u>A comparison of source of commission between colonels and lieutenant colonels within the procurement career field</u>. When considering the variable "Source of Commission",

meaningful differences did exist between the populations (Table 8). The category "academies" included graduates of the United States Military Academy and the United States Naval Academy. There were no graduates from the United States Air Force Academy in either population. It was conceivable for an Air Force Academy graduate to have been present in either population, but secondary zone promotions would have been required for the individual to attain the grade of colonel during the period of time since the establishment of the Air Force Academy in 1955. Although the percentage difference between the two populations in the category "academies" was less than nine percent, it is important to note that four times as many colonels were academy graduates as were lieutenant colonels. This fact must be termed meaningful. It was found that 75% of the lieutenant colonels had obtained their commissions through the Reserve Officer Training Corps (ROTC) Program, while only 51% of the colonels had obtained their commissions in this manner.

These findings appear to indicate that receiving a commission from a service academy was a determinant of a successful career. Although there was a meaningful difference between the populations within the category of commissions received through the Reserve Officers Training Corps (including Distinguished Graduates), this could not be considered to be a detriment to a successful career within

the procurement career field, since a majority of both populations received their commissions in this manner.

TABLE 8. A COMPARISON OF SOURCE OF COMMISSION BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
ACADEMIES	12	13	3	5
ROTC	38	43	44	69
ROTC DG	7	8	4	6
OCS	2	2	1	2
OCS DG	2	2		
AVIAT CADET	21	24	10	16
DP CIVILIAN	5	6	1	2
DP MILITARY	2	2	1	2

The ROTC Program was a primary commissioning source during the time period that the officers in the data-producing populations were being commissioned. It would be expected that a majority of both populations would have obtained their commissions from this particular commissioning source. As the early Air Force Academy graduates attain greater service tenure, however, the Academy as a commissioning source may become more dominant among the higher ranking officrs.

A comparison of source of commission by aeronautical rating between colonels and lieutenant colonels within the procurement career field. When considering the variable

"Source of Commission", crosstabulated with the variable "Aeronautical Rating", meaningful differences did exist between the populations (Table 9).

The category "pilots" displayed a meaningful difference between colonels and lieutenant colonels in commissions received through the Reserve Officers Training Corps and the Aviation Cadet Program. There were 31% of the pilots in the colonels' population that received commssions through ROTC, while 65% of the pilots in the lieutenant colonel's population received commissions through ROTC. The Aviation Cadet Program was the source of commission for 47% of the pilots in the colonels' population, and 35% of the pilots in the lieutenant colonels' population.

Navigators reflected a meaningful difference only in commissions obtained through ROTC. A total of 56% of the colonels and 70% of the lieutenant colonels obtained commissions in this manner.

Non-rated officers evidenced a meaningful difference between the two populations in both commissions obtained from the service academies and from ROTC. A total of 23% of the non-rated colonels were commissioned from the academies, while only 3% of the lieutenant colonels received their commissions through the academies. ROTC accounted for the commissioning source for 67% of the non-rated colonels and 85% of the non-rated lieutenant colonels.

The data indicate that it is a determinant of a

TABLE 9. A COMPARISON OF SOURCE OF COMMISSION BY AERONAUTICAL RATING BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	PILOT				NAVIGATOR				NON-RATED			
	COLONEL		LT.COLONEL		COLONEL		LT.COLONEL		COLONEL		LT.COLONEL	
CATEGORIES	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%
ACADEMIES	2	6			3	11	2	10	7	23	1	3
ROTC	8	25	10	59	15	56	14	70	15	50	20	74
ROTC DG	2	6	1	6					5	17	3	11
OCS					1	4			1	3	1	3
OCS DG	1	3			1	4						
AVIAT CAD	15	47	6	35	6	22	4	20				
DP CIVILIAN	3	9			1	4			1	3	1	3
DP MILITARY	1	3							1	3	1	3

successful career within the procurement career field for a pilot to obtain a commission through the Aviation Cadet Program. It was also determined that although there was a meaningful difference between the populations within the category of commissions received through the ROTC Program, this could not be described as a detriment to a successful career since a majority of both populations received their commissions in this manner.

Within the navigator subdivision it was determined that a meaningful difference did exist within the category of commissions received through the ROTC Program. This could not be described as a detriment to a successful career since a majority of both populations received their commissions in this manner. The non-rated category evidenced a clear determinant of a successful career within the procurement career field with regard to commssions obtained through the service academies. The data indicated that it was a decided detriment to obtain a commission through ROTC. Since a majority of both populations received their commission from this source, it could not be described as a detriment to a successful career within the procurement career field, but could possibly be interpreted as a prerequisite to reaching the grade of lieutenant colonel.

In summary, when "Source of Commission" was crosstabulated with "Aeronautical Rating", greater differences were observed in certain categories of

variables. These differences further enhanced the importance of "Source of Commission" as a determinant of a successful career within the procurement career field. Non-rated officers with academy commissions had a decided advantage over non-rated officers from other commissioning sources in reaching the grade of colonel.

A comparison of professional military education between colonels and lieutenant colonels within the procurement career field. When considering the variable "Professional Military Education", meaningful differences did exist between the two populations (Table 10). In the analysis of professional military education, meaningful differences were found between the colonel and the lieutenant colonel populations with regard to the completion of Squadron Officers School, intermediate service schools, and senior service schools.

TABLE 10. A COMPARISON OF PROFESSIONAL MILITARY EDUCATION BETWEEN COLONELS AND LIEUTENANT COLONELS WITHHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
SOS CORRESPON	37	42	21	33
SOS RESIDENCE	39	44	39	61
INTERMED CORR	21	24	16	25
INTERMED RESD	29	33	9	14
SENIOR CORRES	43	48	42	66
SENIOR RESIDN	20	22	5	8

There were no meaningful differences when the category "Squadron Officers School" was examined for overall completion rate. When the data was analyzed by method of completion however, it was determined that 61% of the lieutenant colonels had completed SOS in residence, while only 44% of the colonels had completed SOS in residence.

Within the colonels population, 57% had completed an intermediate service school, while only 39% of the lieutenant colonels had completed an intermediate service school. Moreover, of those colonels who had completed an intermediate service school, 58% had completed it in residence. When the lieutenant colonel population was examined, it was found that only 36% of those officers who had completed an intermediate service school had done so in residence.

When examining the completion rate of senior level service schools there were no meaningful differences between the two populations with regard to the overall completion rate. However, when examined by method of completion, it was found that 66% of the lieutenant colonels had completed a senior level service school by correspondence, while only 48% of the colonels had completed a senior level service school by correspondence. It was also determined that 22% of the colonels had completed a senior level service school in residence, while only 5% of the lieutenant colonels had attended it in residence.

An analysis of the data appears to indicate that completion of Squadron Officers School was a prerequisite for a successful career within the procurement career field since the majority of both populations had completed SOS. It also appears that completion of SOS by correspondence was more advantageous to a successful career then was completion in residence. However, this is probably due to the lack of emphasis that was placed on PME in the time frame when these officers were eligible for SOS. Attendance at SOS in residence during that time frame was not considered a necessary stepping stone for a successful Air Force career. This attitude seems to have changed significantly in recent years, however, and a younger data source might be expected to show significantly different percentages.

The analysis also appears to indicate that completion of an intermediate level service school or senior level service school, particularly in residence, is a determinant of a successful career. Finally, it would appear that having completed SOS and a senior level service school were prerequisites to a successful career within the procurement career field, since a majority of both populations had completed these levels of professional military education.

A comparison of professional military education by aeronautical rating between colonels and lieutenant colonels within the procurement career field. When considering the

variable "Professional Military Education" crosstabulated with the variable "Aeronautical Rating", meaningful differences did exist between the two populations (Table 11). Within the subdivision "pilot," a meaningful difference was found in that 47% of the colonels had completed an intermediate service school, while only 30% of the lieutenant colonels had done so.

Within the subdivision "navigator", meaningful differences were found in the overall completion rate of an intermediate service school and in the overall completion rate of a senior service school. Sixty-seven percent of the colonels had completed an intermediate level service school, while only 50% of the lieutenant colonels had done so. When examined by method of completion, 90% of the lieutenant colonels had completed an intermediate service school by correspondence, while only 44% of the colonels had completed the school by correspondence. When examining completion of senior service schools it was found that 85% of the lieutenant colonel navigators had completed a senior service school while only 63% of the colonels had done so. However, of those colonels who had completed the senior service school, 15% had completed it in residence while only 5% of the lieutenant colonels had done so.

Within the subdivision "non-rated officers," meaningful differences were found in the completion rate of all three levels of service schools. Squadron Officers

TABLE 11. A COMPARISON OF PROFESSIONAL MILITARY EDUCATION BY AERONAUTICAL RATING BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	PILOT				NAVIGATOR				NON-RATED			
	COLONEL		LT.COLONEL		COLONEL		LT.COLONEL		COLONEL		LT.COLONEL	
CATEGORIES	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%
SOS CORRESPON	17	53	6	35	10	37	8	40	10	33	7	26
SOS RESIDENCE	12	38	10	59	15	56	13	65	12	40	16	59
INTER CORRESP	9	28	4	24	8	30	9	45	4	13	3	11
INTER RESIDEN	6	19	1	6	10	37	1	5	13	43	7	26
SENIOR CORRES	16	50	9	53	13	48	16	80	14	47	17	63
SENIOR RESIDE	5	16	2	12	4	15	1	5	11	37	2	8

School was completed by 73% of the colonels and 85% of the lieutenant colonels. Intermediate service schools were completed by 56% of the colonels and 37% of the lieutenant colonels. In both populations more than twice as many officers attended in residence as had completed the school by correspondence. Senior service schools were completed by 84% of the colonels and by 71% of the lieutenant colonels, with 56% of the colonels completing a senior service school by correspondence and 44% completing it in residence. Eighty-nine percent of the lieutenant colonels had completed the school by correspondnece and only 11% had attended in residence.

These findings appear to indicate the following. For the pilot subdivision, SOS and a senior level service school were prerequisites for a successful career within the procurement career field. It also indicates that an intermediate level service school in residence is a determinant of a successful career. The increased number of individuals who completed SOS in residence within the lieutenant colonel population again may indicate the change in emphasis with regard to PME. For the navigator subdivision SOS, an intermediate level service school, and a senior level service school were prerequisites for a successful career within the procurement career field, while both an intermediate and a senior service school in residence are determinants of a successful career. For the

non-rated subdivision it appears that SOS and a senior level service school are prerequisites for a successful career within the procurement career field, and that an intermediate or senior level service school in residence was a determinant of a successful career. Since completion of SOS is an event that takes place early in an individual's career, it is felt that the importance of this category diminishes towards the attainment of the grade of colonel. However, selection for attendance at an intermediate or senior level school becomes extremely important as a determinant of a successful career. The number of officers who are able to attend PME in residence decreases rapidly as the level of schooling advances. It is only proper that selection for such schools contribute to the success of an officer's career.

A comparison of civilian educational level between colonels and lieutenant colonels within the procurement career field. When considering the variable "Civilian Educational Level", meaningful differences did exist between the two populations (Table 12). When the data was analyzed, a meaningful difference existed between the populations in the category "Bachelor's degree." It was found that in the colonels' population 27% held only Bachelor's degrees, while 39% of the lieutenant colonels held only Bachelor's degrees. A meaningful difference at the Master's degree level can be noted if the one individual who has a Doctorate is combined

with those individuals holding a Master's degree. It would then indicate that 68% of the colonels held a Master's degree or higher, while only 59% of the lieutenant colonels held Master's degrees or higher.

TABLE 12. A COMPARISON OF CIVILIAN EDUCATIONAL LEVEL BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
HIGH SCHOOL	4	4	1	2
BACHELORS	24	27	25	39
MASTERS	60	67	38	59
DOCTORATE	1	1		
EDUC W/IND	24	27	23	36

These findings appear to indicate that having a Master's degree is a prerequisite for a successful career since a majority of both populations had obtained this educational level. It also indicates that having achieved only a Bachelor's degree was a detriment to a successful career within the procurement career field.

A comparison of civilian educational level by aeronautical rating between colonels and lieutenant colonels within the procurement career field. When considering the variable "Civilian Educational Level" crosstabulated with the variable "Aeronautical Rating," meaningful differences were found between the two populations (Table 13).

TABLE 13. A COMPARISON OF CIVILIAN EDUCATIONAL LEVEL BY AERONAUTICAL RATING BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	PILOT				NAVIGATOR				NON-RATED			
	COLONEL		LT.COLONEL		COLONEL		LT.COLONEL		COLONEL		LT.COLONEL	
CATEGORIES	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%	NUM	%
HIGH SCHOOL	3	9	1	6	1	4						
BACHELOR DG	8	25	7	41	9	33	6	30	7	23	12	44
MASTER'S DG	21	66	9	53	17	63	14	70	22	73	15	56
DOCTORATE									1	3		
EDUC W/IND	6	19	4	24	15	56	9	45	3	10	10	37

Within the pilot subdivision it was found that 41% of the lieutenant colonels held only a Bachelor's degree, while 25% of the colonels held only a Bachelor's degree. In the navigator subdivision it was found that 56% of the colonels had completed the Education with Industry Program, while 45% of the lieutenant colonels had participated in this program. In the non-rated subdivision, it was found that 44% of the lieutenant colonels held only a Bachelor's degree, while 23% of the colonels held only this degree. It was also noted that 73% of the colonels held at least a Master's degree while only 56% of the lieutenant colonels held Master's degrees, a difference of 17%. The Education with Industry Program was completed by 37% of the lieutenant colonels and 10% of the colonels.

These findings appear to indicate that within the pilot subdivision, having at least a Master's degree was a prerequisite for a successful career within the procurement career field. It also appears that to have only a Bachelor's degree was a detriment to a successful career. Within the navigator subdivision, the Education with Industry Program is a determinant of a sucessful career within the procurement career field, and holding at least a Master's degree is a prerequisite for a successful career. Within the non-rated subdivision, having a Master's degree is a determinant of a successful career within the procurement career field. Conversely, having only a Bachelor's degree is

a detriment to a successful career.

A comparison of source of advanced degrees between colonels and lieutenant colonels within the procurement career field. When considering the variable "Source of Advanced Degrees", a meaningful difference did exist between the two populations (Table 14). Forty-three percent of the colonels had obtained their advanced degrees through a civilian institution under an Air Force Institute of Technology (AFIT) sponsored program, while only 35% of the lieutenant colonels had obtained their advanced degrees in this manner. It appears that having obtained an advanced degree from a civilian institution under an AFIT sponsored program is a determinant of a successful career within the procurement career field.

TABLE 14. A COMPARISON OF SOURCE OF ADVANCED DEGREES BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
AFIT CIVIL	27	44	14	35
AFIT RESID	8	13	5	12
MINUTE MAN	3	5	1	3
TUIT ASSIS	3	5	3	7
BOOT STRAP	2	3	2	5
OTHER	18	30	15	38

The foregoing analysis of professional military

education, civilian academic educational level, and source of advanced degrees all supoort the fact that education has become an extremely valuable asset to an individual's succesful career plan. The majority of both populations held Master's degrees and had completed a senior level service school. The role of the Air Force officer in the procurement career field has evolved into that of a business manager, and as one might expect, education has become an integral part of the professional officer's career development.

A comparison of years of experience within the procurement career field between colonels and lieutenant colonels within the procurement career field. When considering the variable "Years of Experience Within the Procurement Career Field" a meaningful difference did exist between the two populations even though the two populations were contemporaries in terms of both age and time in service (Table 15). Based on available data for the last 11.25 years, ending 31 March 1977, there was no particular number of "years of experience within the procurement career field" which was meaningfully different between the two populations. There was however, a meaningful difference between the two populations with regard to those officers who had more than five years experience in the procurement career field.

When the lieutenant colonels' population was examined it was found that 84% had greater than five years experience, while 71% of the colonels had greater than five

years experience. This appears to indicate that five or more years experience in the procurement career field is a prerequisite for a successful career within that field.

TABLE 15. A COMPARISON OF YEARS OF EXPERIENCE WITHIN THE PROCUREMENT CAREER FIELD BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
0 < YRS ≤ 1	9	10		
1 < YRS ≤ 2	7	8	5	8
2 < YRS ≤ 3	2	2		
3 < YRS ≤ 4	4	4	4	6
4 < YRS ≤ 5	3	3	1	2
5 < YRS ≤ 6	10	11	6	9
6 < YRS ≤ 7	4	4	9	14
7 < YRS ≤ 8	9	10	5	8
8 < YRS ≤ 9	9	10	9	14
9 < YRS ≤10	5	6	5	8
10 < YRS ≤11	1	1	4	6
11 < YRS ≤12	26	29	16	25

A comparison of marital status between colonels and lieutenant colonels within the procurement career field. When considering the variable "Marital Status", meaningful differences did not exist between the two populations (Table 16). Of the 89 colonels in the procurement career field, 93.3% were married, 4.5% were divorced, and 2.2% were single. Of the 64 lieutenant colonels, 95% were married, 2% were divorced, and 3% were single.

There appears to be no indication that "Marital Status" is a determinant of a successful career within the

procurement career field. It does appear, however, that being married is a prerequisite for a successful career, since a large majority of both populations were married.

TABLE 16. A COMPARISON OF MARITAL STATUS BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
MARRIED	83	93	61	95
DIVORCED	4	4	1	2
SINGLE	2	2	2	3

A comparison of number of children between colonels and lieutenant colonels within the procurement career field. When considering the variable "Number of Children", meaningful differences did not exist between the two populations (Table 17). No meaningful differences were noted between the populations when examined for any particular number of children. The range of children in the colonel's population was Ø through 6, with an average of 2.4. In the lieutenant colonel's population, the range was from Ø through 8 with no officer having 7 and with an average of 2.6 children.

A comparison of age between colonels and lieutenant colonels within the procurement career field. When considering the variable "Age", meaningful differences did not exist between

TABLE 17. A COMPARISON OF NUMBER OF CHILDREN BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
Ø CHILDREN	9	1Ø	8	13
1 CHILDREN	11	12	6	9
2 CHILDREN	31	35	16	25
3 CHILDREN	18	2Ø	17	27
4 CHILDREN	17	19	12	19
5 CHILDREN	2	2	2	3
6 CHILDREN	1	1	2	2
7 CHILDREN				
8 CHILDREN			1	2

the two populations (Table 18). Although a meaningful difference was found to exist in the category of "43 Years of Age", it was not felt that a particular age was a determinant of a successful career within the procurement career field. The average age of the 89 colonels in the procurement career field was 45.6 years, and that of the 64 lieutenant colonels in the procurement career field was 44.8 years. The range of ages of the colonels was 18 years, from the youngest at 38 years of age to the oldest at 56 years of age. The range of ages of the lieutenant colonels was only 12 years, from 41 to 53 years of age. There appears to be no indication that "Age" was a determinant of a successful career within the procurement career field.

Although it would normally be expected that a population of colonels would be older than a population of

TABLE 18. A COMPARISON OF AGE BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
38 YRS OF AGE	1	1		
39 YRS OF AGE	1	1		
40 YRS OF AGE	2	2		
41 YRS OF AGE	1	1	4	6
42 YRS OF AGE	7	8	5	8
43 YRS OF AGE	12	13	14	22
44 YRS OF AGE	17	19	12	19
45 YRS OF AGE	7	8	9	14
46 YRS OF AGE	9	10	9	14
47 YRS OF AGE	6	7	2	3
48 YRS OF AGE	11	12	1	2
49 YRS OF AGE	4	4	4	4
50 YRS OF AGE	3	3		
51 YRS OF AGE	3	3	1	2
52 YRS OF AGE	2	2	2	3
53 YRS OF AGE	1	1	1	2
54 YRS OF AGE				
55 YRS OF AGE	1	1		
56 YRS OF AGE	1	1		

lieutenant colonels, it was found in this research effort that four colonels were younger than any of the lieutenant colonels. This can be related to secondary zone promotions. There were a greater number of secondary zone promotions within the colonels' population, and therefore these individuals were promoted at an earlier age. One of the purposes of this research was to compare peers or contemporaries. On the whole, the individuals who had not been selected for colonel were the contemporaries of those who had been selected. The results of the average ages are

not surprising then, as there is only .8 years difference between the average ages of the colonels and lieutenant colonels. This indicates that these populations were contemporaries.

A comparison of religious preferences between colonels and lieutenant colonels within the procurement career field. When considering the variable "Religious Preferences" meaningful differences did exist between the two populations (Table 19).

TABLE 19. A COMPARISON OF RELIGIOUS PREFERENCES BETWEEN COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
ROMAN CATHOLIC	30	34	12	19
PROTESTANT	53	56	44	69
BUDHAISM	1	1		
JEWISH	1	1	2	3
OTHER	4	5	5	8

Fifty-six percent of the colonels were protestant and 69% of the lieutenant colonels were protestant. Thirty-four percent of the colonels were Catholic, while only 19% of the lieutenant colonels were Catholic. This appears to indicate that being a Catholic was a determinant of a successful career, while being protestant was a detriment.

Summary of the Analysis

The primary objective of this research effort was to identify those common success factors that significantly contributed to the successful career progression of colonels within the procurement career field. Of the 14 variables analyzed, 12 were identified as success factors as defined in this study.

Although only 14 variables were found to be practical for analysis in seeking meaningful differences, some additional factors were found to be valuable in describing the populations that were examined. These additional variables are discussed in this section.

A display of location of current assignment for colonels and lieutenant colonels within the procurement career field. When considering the variable "Location of Current Assignment", no comparison to define meaningful differences between the two populations was attempted (Table 20). The concentration of procurement personnel can be directly attributed to particular organizational activities involved in procurement actions. Two of the primary Major Air Command Headquarters, which are responsible for a relatively large portion of Air Force procurement, are located in Ohio and the Washington D.C. area (Air Force Logistics Command (AFLC) and Air Force Systems Command (AFSC), respectively). AFSC also has divisions, which are equivalent to Numbered Air Forces in Ohio, Massachusettes and California. AFLC also has

TABLE 20. A DISPLAY OF LOCATION OF CURRENT ASSIGNMENTS FOR COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
NEW MEXICO	7	8		
VIRGINIA	9	10	2	3
MASSACHUSETTES	3	3	5	8
GEORGIA	3	3	3	5
CALIFORNIA	19	21	11	17
UTAH	3	3		
OHIO	10	11	8	13
TEXAS	7	8	1	2
ALABAMA	1	1	1	2
MISSOURI	3	3	1	2
NEW YORK	3	3	3	5
FLORIDA	3	3	3	5
COLORADO	2	2	4	6
WASHINGTON	1	1	1	2
ILLINOIS	2	2	2	3
PENNSYLVANIA	1	1		
HAWAII	1	1	1	2
NEW JERSEY	1	1		
TENNESSEE	1	1	1	2
OKLAHOMA	2	2	1	2
ARIZONA			1	2
WASH D.C.	6	7	5	8
SAUDI ARABIA			1	2
PHILLIPINES			1	2
ALASKA			1	2
GERMANY	1	1	4	6
DENMARK			1	2
SPAIN			1	2

five Air Logistic Centers (ALC) located in Utah, California, Texas, Georgia and Oklahoma. These are the locations where the majority of the Air Force procurement dollars are spent. AFLC also has the Air Force Contract Management Division (AFCMD) at Kirtland AFB, New Mexico. The locations of these

organizations may be considered largely responsible for the concentration of procurement officers in these areas. These assignments are intended only for the purpose of describing typical assignment locations. Table 20 is a visual display of the present location of the individuals within the two populations.

A display of years of active federal commissioned service for colonels and lieutenant colonels within the procurement career field. Although it was not possible to compare the number of years service at the time of promotion to colonel, with the number of years service when not selected for colonel the first time, data was available to compare total number of years active federal commissioned service for each officer in the data source. This data is displayed only as a technique to further describe the populations (Table 21). It can be observed from this comparison that the range of service for the lieutenant colonels was only 10 years, while the range for the colonels was 14 years. The upper end of the lieutenant colonel population is determined by the fact that a lieutenant colonel can only remain on active duty for 28 years of commissioned service.

The composite procurement officer. It was also determined that a composite of the typical officer in each population would be of value. The typical officer in the colonels' population is married and 45.6 years old with 2.4 children.

TABLE 21. A DISPLAY OF YEARS OF ACTIVE FEDERAL COMMISSIONED SERVICE FOR COLONELS AND LIEUTENANT COLONELS WITHIN THE PROCUREMENT CAREER FIELD

	COLONELS		LT. COLONELS	
CATEGORIES	NUM	%	NUM	%
17 YRS SERVICE	1	1		
18 YRS SERVICE	1	1		
19 YRS SERVICE	4	5	1	2
20 YRS SERVICE	5	6	4	6
21 YRS SERVICE	7	8	12	19
22 YRS SERVICE	15	17	21	33
23 YRS SERVICE	15	17	10	16
24 YRS SERVICE	11	12	5	8
25 YRS SERVICE	9	10	4	6
26 YRS SERVICE	11	12	5	8
27 YRS SERVICE	6	7	1	2
28 YRS SERVICE	1	1	1	2
29 YRS SERVICE	2	2		
30 YRS SERVICE	1	1		

His religious preference is Protestant first, and Roman Catholic second. He has 23.4 years of total active duty as a regular commissioned officer, and his aeronautical ratings were evenly distributed among pilot, navigator or non-rated. He has had no secondary zone promotions, but has held an assignment as a commander. He has held staff assignments at or above the Numbered Air Force level, and at least one assignment at the Headquarters USAF level. His commissioning source was one of three, depending upon his aeronautical rating. If he was a pilot his commission was obtained through the Aviation Cadet Program or the Reserve Officer Training Corps Program. If he was a navigator, he received

his commission through ROTC or the Aviation Cadet Program, but more likely through ROTC. If he was non-rated, he received his commission through ROTC or a service academy, but more likely through ROTC as a distinguished graduate. In the area of Professional Military Education he has completed SOS and an intermediate service school either in residence or by correspondence. He has also completed a senior level service school by correspondence. He has a Master's degree from an AFIT program at a civilian institution, and has been assigned to jobs in the procurement career field for slightly over 7.1 of the last 11.25 years.

The typical individual in the population of officers who failed to attain success within the procurement career field as defined by this study is a married, 44.8 year old lieutenant colonel with 2.6 children. His religious preference is Protestant first, and Roman Catholic second. He has 22.6 years of total active service as a regular officer, and is likely to be a non-rated officer. He has had no secondary zone promotions and has not held a command asssignment. He has held a staff assignment at or above the Numbered Air Force level, but has probably never held a staff position at the Headquarters USAF level. His source of commission is determined by his aeronautical rating. If he is a pilot his commission was obtained through ROTC or the Aviation Cadet Program, but more likely ROTC. If he is a navigator or non-rated officer, his commission was obtained

through ROTC. With regard to PME, he has completed SOS in residence and a senior level service school by correspondence. He holds a Master's degree through an AFIT civilian institution program, or through a non service-related effort at his own expense. He has been assigned to jobs in the procurement career field for 7.8 of the last 11.25 years.

The composite officer that is drawn from these data populations indicates that the typical procurement officer is a specialist. He has spent almost eight of the last eleven years in assignments closely related to the procurement field.

When considering career progression plans, there are three generally accepted routes. An individual may choose to follow a career that is operationally oriented, he may choose a career plan that blends operations and staff assignments, or he may choose a field and become a specialist. The data of this research effort indicates that the procurement career field has allowed an individual to become a specialist and attain success as part of that specialty.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this thesis was to investigate and identify those common factors that have significantly contributed to the successful career progression patterns of colonels in the procurement career field. It was felt that if common success factors could be identified, they would be useful to the Air Force in offering its procurement officers a logical, desirable and success oriented career progression plan.

Summary of the Study

In proposing this study, it was recognized that the Government procurement work force is being endangered by a lack of managerial attention. The exceptional resource of quality personnel throughout all levels of government procurement needs to be organized and a plan established to develop this work force. Since the actions of the procurement work force impact heavily on about one-fourth of the annual Federal budget, the Congressional Commission on Government Procurement stressed that the procurement work force must be trained, qualified, and capable of using good judgment in their procurement duties (2:46). Since the Air Force spends a large portion of the annual Department of

Defense budget and there can be no checklist of precise actions to be taken on each and every transaction, it needs capable individuals who are educated, qualified and willng to use good judgment in carrying out these transactions.

It was determined through a thorough literature review, and stated as the problem in Chapter I, that there is no clearly understood, logical, desirable, and success oriented career progression plan visible to military procurement officers in the Air Force. Such a plan is a must if the Air Force is to develop and maintain its share of a highly qualified force of Government procurement officers.

This study set out to investigate whether the determinants of success could be identified by a comparative analysis of two procurement officer populations. The first population consisted of colonels serving on active duty in the procurement career field as of 1 April 1977. The second population consisted of lieutenant colonels serving on active duty in the procurement career field who had been considered for promotion to colonel at least once as of 1 April 1977, but who had not been selected for promotion.

The Research Proposition

The research proposition was that there are common success factors which can be identified that have significantly contributed to the career progression patterns of colonels in the procurement career field.

By comparing variables such as aeronautical rating,

component, secondary zone promotions, command assignment, highest level of assignment, source of commission, professional military education, civilian educational level, source of advanced degrees, years of experience within the procurement career field, marital status, age and religious preference, between the two populations firm support was found for the research proposition by identifying 12 variables of those analyzed which are practically and meaningfully different between the two populations. The Research Proposition is supported by this study.

Conclusions

From this research effort, it was observed that several meaningful differences did exist between the two populations. These results indicate that there are determinants of a successful career within the procurement career field, and that these determinants can be identified. These determinants can be used to provide an insight toward a successful career progression plan within the procurement career field to the grade of colonel.

The results of this research must be interpreted with extreme care. The findings show that for these two particular populations at this particular time, meaningful differences are present between the two populations, and were labeled as "determinants of success." It may only be assumed that unless the manner in which promotions occur is altered, or the emphasis on certain qualities and

characteristics change, that possession of these determinants would greatly enhance an individual's opportunity for success within the procurement career field. Table 22 summarizes the findings of the variables as to their being termed "determinants" or "prerequisites".

It is necessary to remember that the variables considered in this research were examined in the absence of Officer Effectiveness Report data. This particular information is highly sensitive to Air force Officers and was not available for this study. The OER history was maintained as a constant, and all other personnel variables were considered and compared without the knowledge of the OER data. It is safe to assume that the OER data could modify the results of this study. The lack of this data further emphasizes the importance of keeping the results of this particular effort in perspective.

Recommedations

This research effort has shown that there are determinants that can be identified that have contributed to an individual's succesful career progression within the procurement career field. This information can be of great use to both junior officers and those officers who are more advanced in their careers. From the viewpoint of the junior officer, knowledge of these determinants can provide the framework for establishing a long range plan to identify specific areas of his career that should receive special

TABLE 22. VARIABLES ANALYZED TO IDENTIFY DETERMINANTS* AND PREREQUISITES** OF SUCCESS IN THE PROCUREMENT CAREER FIELD

VARIABLES	DETERMINANTS	PREREQUISITES
AERONAUTICAL RATING	X	
COMPONENT		X
SECONDARY ZONE PROMOTION	X	
SECONDARY ZONE PROMOTION BY AERONAUTICAL RATING		
COMMAND ASSIGNMENT	X	
HIGHEST LEVEL OF ASSIGNMENT	X	
SOURCE OF COMMISSION	X	
SOURCE OF COMMISSION BY AERONAUTICAL RATING	X	
PROFESSIONAL MILITARY EDUCATION	X	X
PROFESSIONAL MILITARY EDUCATION BY AERONAUTICAL RATING	X	
CIVILIAN EDUCATIONAL LEVEL	X	X
CIVILIAN EDUCATIONAL LEVEL BY AERONAUTICAL RATING	X	X
SOURCE OF ADVANCED DEGREES	X	
YEARS OF EXPERIENCE IN THE PROCUREMENT CAREER FIELD		X
MARITAL STATUS		X
AGE		
RELIGIOUS PREFERENCE	X	

*Determinant indicates a meaningful difference between the two populations.

**Prerequisite indicates a requirement of both populations.

attention to enhance his opportunity for success. For the more advanced officer, it would allow him to measure his progress towards attaining success. These guidelines can only be of value if the information needed to establish them is current and accurate.

As stated in Chapter I, the government procurement work force, especially the military officer, is in dire need of a viable and visable career progression plan. This career progression plan must be developed by the individual in an ever changing environment, which necessitates constant and current information. This study is but a snapshot of a particular time during the careers of these populations. It does show the feasibility of identifying determinants of success but cannot be used except by a small minority of procurement personnel.

It is recommended that an annual report be prepared by the AFMPC, by year group and career field, of those variables that have been considered in this study and others identified by future research in this area. These year groups must be considered as a population and the statistics described for these populations in much the same manner as in this thesis. The factor for comparison to a "successful" population would be a similar report of any promotion board selections during the year. This would provide trends of selection for four year-groups each year. It would also establish the patterns that junior officers could emulate.

The constant updating of the "successful determinants" would allow the junior officer to make the needed changes to his career path, and would allow the senior officer to insure he is maintaining the proper path to enhance success.

Recommendations for Future Study

The researchers discovered that many related questions remain unanswered and await the concerned researcher. The following includes areas that should be studied to provide further insight into the important subject introduced by this study. Additional year-groups of procurement officers should be studied to confirm that determinants of success exist for the entire universe of procurement officers. Additional variables should be considered for analysis in seeking determinants of success. This wil involve additional sources of data beyond the officer briefs used in this study. Officer Effectiveness Report data is suggested as an additional source if it can be made available. It was held constant in this study but is believed to be a major consideration by selection boards for promotions as well as other personnel actions. Another area which should be explored is guided personal interviews with procurement officers currently on active duty. This should provide additonal insight into how selected officers perceive career progression in the procurement field and how they develop individual career progression plans.

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Captain William H. Herbert graduated from the University of Notre Dame in 1971 with a Bachelor of Business Administration degree, and was commissioned into the Air Force that same year. His initial assignment was to Little Rock AFB, Arkansas, as a Combat Control Officer. After two years he became Air Traffic Control Operations Officer for the 1882d Communications Squadron at Little Rock. In 1973 he became the Commander of Detachment 2, 2032d Communications Squadron at Luke AFB, Arizona, in support of the 607th Tactical Air Control Squadron. He entered AFIT in 1976 and will next be assigned as a Base Procurement Officer at Langley AFB, Virginia.