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DFML SELECTION CRITERIA AND PROCESS

THESIS

Timothy G. Loftis
Captain, USAF

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AFIT/LS/GLM/85S-76

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CPML SELECTION CRITERIA AND PROCESS

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

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Acknowledgments

The purpose of this paper was to ascertain the process and criteria used in selecting personnel for the position of Deputy Program Manager for Logistics (DPML). Due to the fact that no research exists today to explain the process and criteria used in the selection process of DPMLs, we decided that this information would be useful for persons interested in this aspect of system acquisition.

In performing the research and writing of this thesis we have had a great deal of help from others. We are indebted to our reader, Mrs. Jane Robins, and our facility advisor, Lt Col John Long, for their patience and assistance in preparing this paper. We also wish to thank the personnel from the Air Force Acquisition Logistics Center for their continued cooperation in providing us with helpful data. Finally, we would like to express special thanks to Linda Loftis, our typist, for without her unselfishness and dedication to helping us, we may never have finished this thesis.

Timothy G. Loftis

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Abstract

The research report outlines the current selection criteria and process for selecting a deputy program manager for logistics (DPML) by the Air Force Acquisition Logistics Center (AFALC), and provides perceptions of the process and criteria by program managers (PMs) and (DPMLs). The AFALC is charged, by regulation, with staffing the DPML position (by definition, a major program) and integrated logistics support offices (ILSOs) within all product divisions program offices of the Air Force Systems Command. Inputs to the process and emphasis upon specific criteria are received from numerous sources (articulated within the thesis) and heirarchical levels.

The analysis of the process and criteria was accomplished by interviewing the AFALC Deputies and their staff, who are the primary assignment policy decision makers. Perceptual data of field personnel (PMs and DPMLs) was gathered by use of a non-probabalistic interview sample of PMs and DPMLs within the Aeronautical Systems Division, Electronic Systems Division, and the Armament Division of the Air Force Systems Command.

The research confirmed that a clearly identifiable, consistent selection process and criteria were used by the AFALC; however, the weighting given specific criterion was tailored to each specific program. Perceptions of field personnel confirmed the relevance of the current criteria; however, there appeared to be a lack of understanding among PMs

and DPMLs of the AFALC process. The report raised issues for further research and action regarding a special acquisition experience identifier, and possible re-delegation of DPML selection responsibility. The report established a current data base concerning the DPML selection process and criteria which, along with field perceptions, provides insights for further study and research.

DFML SELECTION CRITERIA AND PROCESS

I. Background

Introduction

The extremely high cost of major weapons system acquisition, operations, and support has generated an environment which stresses maximum efficiency throughout the life cycle. Although the historical acquisition process emphasized initial purchase price, schedule, and performance issues, more recent trends have focused upon supportability, reliability, and maintainability. Note the comments of former Deputy Secretary of Defense, Dr. Frank Carlucci, in his 1981 memorandum to the military department secretaries.

Improved readiness is a primary objective of the acquisition process of comparable importance to reduced cost or reduced acquisition time. Resources to achieve readiness will receive the same emphasis as those required to achieve schedule or performance objectives. Include from the start of weapon system programs designed-in reliability, maintainability, and support (3:1).

This philosophy has been incorporated in the revised DOD Directive 5000.1 as stated by the following excerpt.

Readiness goals and related design requirements and activities shall be established early in the acquisition process, and shall receive emphasis comparable to that applied to (initial purchase) cost, schedule and performance objectives. Logistic supportability shall be considered early in its formulation of the acquisition strategy and in its implementation. Projected or actual achievement of readiness objectives will be assessed at each milestone (3:7).

In his text on life cycle costing, Robert M. Seldon notes that conservative estimates of the operations and support costs account for some 60 percent of the total lifetime ownership costs of major systems, while others point out that in many cases, this figure is more reasonably

set at approximately 80 percent (19:2). When one considers that for 1985, new budget authority alone in the operations and support area is estimated to exceed \$81 billion, the magnitude of the issue and the reasons for concern begin to emerge (10:19).

The direct link of logistical support to combat readiness and the very viability of our national defense posture is well articulated by Gen James P. Mullins, USAF (Ret), former Commander of the Air Force Logistics Command.

For years we've traded off real combat capability for the illusion of capability - an illusion of total numbers in an inventory, not of sorties that can be flown...In the past we purchased, say, 100 new airplanes but very few spares. Typically, these systems have promised an operationally ready rate of about 75 percent; just as typically, this rate has dropped off almost immediately because of spares shortages. So in fact we have not 100 airplanes but only half that many...We can build systems that are reliable and durable enough to obviate the need for additional logistics support, or we can act to insure that when we buy new weapons systems, we also secure the logistics support they must have (17:3,4).

The management challenge at hand is to discover techniques which optimize a life cycle supportability plan in the acquisition and major modification of weapons systems. Former Deputy Secretary of Defense, Paul Thayer, notes that current initiatives in the acquisition improvement program provide a basis for savings of over \$30 billion by 1988 (22:7). He further focuses past history and current progress in his comments concerning the Grace Commission recommendations.

In the past, new weapons were sometimes fielded without sufficient spares and repair parts to keep them operating for an extended period. Now the original contracts for equipment include provisions for full initial support packages and arrangements for an uninterrupted supply of replenishment parts. In addition, the design specifications for all new equipment now make reliability and ease of maintenance top priority criteria (22:4).

While supportability, reliability, and maintainability cut across the organizational structure of the systems program office (SPO), the primary

management responsibility for these issues is vested in the deputy program manager for logistics (DPML) (8:9).

Research Problem

There has been no empirical study performed which attempts to relate the selection criteria for the DPMLs to their success within the SPO. The critical tasks in any management effort outline, but yet do not fully define the manager's role in the process. This is true for the DPML, as with other managers, but with a unique flavor of its own. As noted, logistical issues cut across organizational lines within the program office, thus creating the likelihood of authority/responsibility problems. As a weapons system progresses through the acquisition process (concept exploration, demonstration/validation, full scale development, and production/deployment), the key tasks and, therefore, the outline for the role of the DPML shift. The skills, training, and experience of the DPML in this dynamic environment are critical to program success. Optimizing the selection process of the DPML, while not ensuring successful programs, certainly increases the probability of that outcome. The reader is reminded that supportability is a necessary ingredient of a successful program. A set of criteria for selecting the most qualified individual for the DPML position must, as a minimum, consider the following broad categories: (1) the mission to be accomplished, (2) the organizational structure (environment) in which the DPML must function, and (3) the identification of the specific managerial traits which can enhance the probabilities of success.

Historical Perspective

In July of 1976, the Air Force Acquisition Logistics Division (AFALD) was established with a mission of improving the support and supportability of fielded weapons systems (5:25). This division of the Air Force Logistics Command was to be the proponent of an early emphasis (in the acquisition cycle) upon logistical considerations, and was the forerunner of today's Air Force Acquisition Logistics Center (AFALC) (5:25). The AFALC's establishment as a separate operating agency, as opposed to a division of the Air Force Logistics Command (AFLC), is not only evidence of a growing commitment to logistical issues in the acquisition process, but also bears directly on the DPML selection process (3:1). The AFALC is charged with responsibility for appointment of all DPMLs, integrated logistics support managers (ILSMs), and key acquisition logistics directors to "...manage the integrated logistics support for the program manager (within a systems program office) and to serve as the primary AFLC spokesperson before program management responsibility transfer (PMRT)" (3:1). (PMRT is the point at which management responsibility for support of a weapons system is transferred from the acquiring command, normally AFSC, to the supporting command, normally AFLC (8).) Key logistics personnel are also assigned at AFSC product divisions to "...manage resources according to applicable memoranda of agreement" (3:1). The joint AFLC/AFSC Regulation 23-50, Air Force Acquisition Logistics Center, specifies that the AFALC mission is to manage "...the acquisition logistics functions required to field supported and supportable weapons systems, subsystems, and equipment" (3:1). This tasking, and the organizational structure by which it is accomplished, is unique in that the AFALC, though designated as a

separate operating agency, is a joint venture between AFSC and AFLC (13:2).

In the formative days of the AFALD, the DPMLs and ILSMs were assigned to the AFLC Air Logistics Centers while they were in fact advocates of the AFALD mission (5:25). Problems of timely personnel assignment, authorization of manning slots, and a general attitude of "non-responsiveness" eventually resulted in the transfer of all assignment functions to the AFALD (AFALC) (5:25,26). The most current (draft) copy of the AFALC historical narrative cites the DPMLs and the ILSMs as "management specialists (who) were at the heart of the acquisition logistics function" (16:5). It goes on to further define the positions and some distinctive characteristics of both the DPMLs and ILSMs.

A DPML was established on major programs (for the purpose of) filling all the logistics support functions including the development of detailed logistics support plans. The DPMLs position was different from those of other deputy program managers in that the DPMLs reported to the AFALD (AFALC) commander as well as the program director...the DPMLs collaborated with the using commands and appropriate ALCs (Air Logistics Centers) in planning fully supportable systems (16:5).

Air Force Regulation (AFR) 800-8, Integrated Logistics Support (ILS) Program, notes that the roles of the DPML and ILSM are the same (8:2). The only distinction is that a DPML is assigned to a major program office (8:2). Though the implementation of an ILS plan is equally necessary in a less than major program, the scope of responsibility for an ILSM will normally be reduced by program budget, manpower, and review requirements (7).

The actual appointment of personnel to fill the position of DPML/ILSM is within the purview of the Commander, AFLC; however, "When a vacancy occurs in a senior officer position, the replacement will be

jointly selected by the vice commanders of AFLC and AFSC based upon nominations received from the commander of the product division and the commander of the acquisition logistics division" (13:3;8:2). The criteria of that selection process are the main focus of this paper.

Research Objectives

The primary purpose of this research is to determine the selection process and selection criteria for DPMLs. After establishing the process and criteria, the researchers will attempt to determine if there is a consensus of opinion among currently assigned DPML's as to the adequacy, propriety, and completeness of the criteria. As a final objective, the authors wish to establish a valid data base upon which further research can be based. To further enhance this final objective, perceptions of the selection process and criteria by program managers will also be sought.

Research Hypotheses

1. AFALC has established a set of selection criteria for filling the DPML position within the System Program Office. Based on these criteria, selection nominations are forwarded to the commander of the AFALC.
2. Those personnel performing DPML duties have a perception of the selection criteria and their relative merits.
3. The program manager (PM) is in a unique position to observe the outcome of the selection process and criteria, namely the appointment and performance of the DPML.

4. A comparison of the criteria established at the AFALC level and the evaluation of those criteria at the operational (SPO) level will provide insights to the merit of further study in this area.

Research Questions

1. What is the current process for assignment of personnel to DPML positions?
2. What are the current DPML selection criteria?
3. Are the criteria consistent within the various product divisions?
4. Is there a consensus among DPMLs in the SPOs as to the merit of the criteria?
5. Is there a consensus among PMs in the SPOs as to the merit of the criteria?
6. What conclusions can be drawn from a comparison of the results of the preceding questions?

II. Literature Review

Introduction

In order to effectively determine credible answers to any research questions it is essential for the researcher to review and consider relevant, previous empirical studies and literature. In this particular study, direct reference to the selection criteria for DPMLs was not found to be the subject of any empirical studies or professional literature. While there were no shortages of regulations dealing with the DPMLs responsibilities, none dealt with the issue of selection criteria. This led the researchers to believe that data gathering in this area could have significant value. Sources of information relevant to the research objectives were, however, available. The following review will address the role of the DPML within the acquisition process and discuss traits from which selection criteria may be developed. These traits may be ascertained from a perspective of DPML tasks, the organizational structure in which the DPML must function, the traits historically associated with success, and the barriers the DPML is likely to encounter.

Role of the DPML

AFR 800-2, Acquisition Program Management, tasks the program manager to ensure management decisions equally weigh supportability with cost, schedule, and performance (7:3). The program manager's prime advisor and source of expertise on matters of supportability within the SPO is the DPML. AFR 800-8 specifically defines the responsibilities of both the DPML and the ILSM as follows:

- a. Manage the ILS (Integrated Logistics Support) portion of the acquisition program and implement the ILSP (Integrated Logistics Support Plan) using the assistance, advice, and recommendations of the participating commands, according to the PMD (Program Management Directive) and the policies in this regulation.
- b. Establish and maintain plans and programs to integrate logistics support considerations into systems engineering and development through the LSA (Logistical Support Analysis).
- c. Integrate the logistics support requirements and efforts of the participating commands with the logistics efforts of the contractor, through correlation of the ILSP and the ISP (Integrated Support Plan).
- d. Directly support program office activities, to ensure that the initial system design and changes to the maturing design are consistent and compatible with the current and approved logistics concepts and requirements.
- e. Implement acquisition logistics procedures and respond to ILS (Integrated Logistics Support) guidance and direction.
- f. Establish a close working relationship with contract administration personnel concerning ILS activities. Document specific ILS activities to be performed by the contract administration and program office personnel in an integrated logistics support annex, contained in the memorandum of agreement executed between the PM and the contract administration office.
- g. Help in developing budget information for ILS and acquisition of support resources, and monitor expenditures of logistics related funding.
- h. Assist in obtaining historical data of operational support deficiencies encountered in the development and use of similar systems.
- i. Evaluate deficiencies and required enhancements noted during DT&E (Development Test and Evaluation) and OT&E (Operational Test and Evaluation), to determine their impacts on logistics support. The results of these evaluations will be provided to the Material Improvement Project Review Board (MIPRB).
- j. Coordinate the efforts of the program office and supporting, participating, and using commands in developing the ILSP, defining ILS requirements, and defining appropriate contractual requirements.
- k. Participate with the program office test activity, training and using commands, and AFTEC (Air Force Test Evaluation Center) in developing and integrating logistics test objectives and criteria into test, planning, and contractual requirements (8:9).

While regulations may define the DPMLs' responsibilities, their role is perhaps better defined in terms of specific tasks for which they are responsible and the style of management which they employ to ensure those responsibilities are met.

The Acquisition Logistics Portrayal (ALP), which has been developed by the Procedures and Networking Office (XRI) of the AFALC, is a key management aid by which the DPML can plan, coordinate, monitor, and evaluate the series of activities in the program (1:1,2). A summary list of these DPML tasks, by phase of acquisition process, is included as Appendix A. The reader should note the broad categories or tasks and recognize that most major summary tasks have a series of subtasks, many of which have been networked for correlation with a given timetable. A set of selection criteria should include consideration of the tasks necessary in the phase(s) during which the DPML will function. Some tasks are present and significant in all phases of the acquisition cycle (i.e. preparation of requests for proposal (RFP)). The selection of specific techniques and the ability of the DPML to employ a personal management style is affected in part by the organizational structure within which one must operate.

Organizational Structure

AFSC/AFLCR 23-50 states: "The product divisions are provided acquisition logistics deputate personnel from AFALC through a matrix management arrangement" (3:1). In his text, Systems Management, J. Stanley Baumgartner has collected a series of professional management essays which address the techniques, unique problems, and recommendations for the successful manager in a matrix project management environment.

A matrix management arrangement, as defined by Mr. Baumgartner, can be described as a mix between functional and project organizational forms in which an individual assumes responsibility across functional department lines (4:130). Figure 1 depicts a simplified organizational chart of the AFALC. Logistical personnel from within the various Directorates of Acquisition Logistics (three letter organizational designation), are assigned to the integrated logistics support offices within the SPO. While functioning within the SPO organization, directed by the program manager, their organizational lines of responsibility and accountability normally remain within the AFALC structure (3:1).

Mr. Robert Youker, in an article appearing in Project Management Quarterly, finds that the matrix management organizational structure has met with mixed reviews dependent upon individual manager's experience (4:132). He notes that the use of this structure is generally the result of a "...balance of power between the goals of the functional structure and of a specific project" (4:132). The matrix structure seems to well suit the military acquisition process when one considers that the two commands (AFLC and AFSC) respectively bear functional responsibilities of life cycle support and initial development of weapons systems. Mr. Youker further points out that matrix organizations tend towards overloading their associated functional departments (4:132). This also seems consistent with the Air Force recognition of the need and subsequent establishment of the AFALC. While Mr. Youker's discussion of project management is beneficial in its entirety, the following section is quoted directly because of its "survial techniques" for the DPML who must function in a matrix environment.

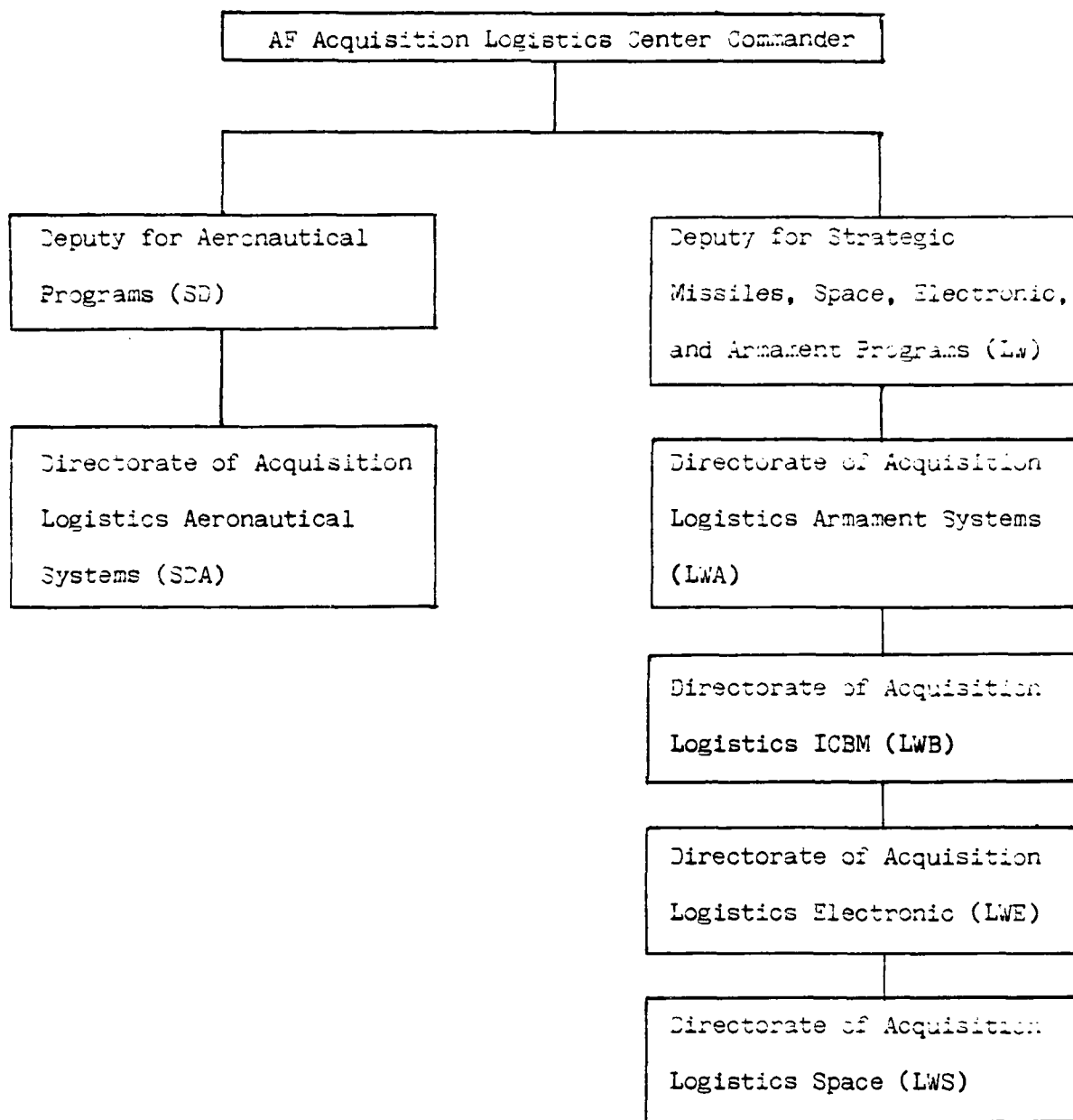


Fig. 1. AFALC Organizational Chart 1985.

1. It is important to have a charter from top management defining responsibilities and authority for the project manager as well as the role of the functional departments.
2. The project coordinator or manager must anticipate conflicts in the matrix. Conflict is inevitable with dual authority, but it can be constructively channeled.
3. Since conflict is inevitable, it is important to take positive steps to develop teamwork. Regular luncheons or social gatherings help to foster a team spirit. In recent years, the behavioral sciences have developed a number of specific techniques for alleviating or using conflict effectively. Training programs for matrix managers should include experiences with such techniques.
4. The project coordinator's main power comes from the approved objectives, plans, and budgets for the project. Use these documents to hold departments to their commitments.
5. It is vital that the functional department heads be committed to the plans and schedules for the project as well as the lower-level task leaders. Functional managers should review and sign off on these documents.
6. It is usually best to avoid direct conflict with the functional department heads. The matrix manager should use his boss when a situation threatens to get out of hand.
7. It is important to remember that the project coordinator is concerned with 'what' is to be done, not 'how.' Use a management-by-objectives approach and do not supervise the functional departments too closely.
8. Many of the problems of matrix management flow from the uncertainty inherent in the project environment. By definition, a project is, to some extent, a 'new' effort. Careful and continuous planning can help reduce uncertainty (4:133,134).

A final comment from Mr. Youker is most appropriate for our discussion.

When a matrix approach is chosen, the entire organization must put a great deal of effort into it to make it work. In particular, the project coordinator or project manager in the matrix must be carefully chosen and trained. His interpersonal skills are more important than his technical knowledge (4:133,134).

As noted by the last comments of Mr. Youker, interpersonal skills are deemed more significant to managerial success than technical knowledge of the acquisition. In 1984, a research team from the Defense

Systems Management College (DSMC), composed of J. Stanley Baumgartner, Calvin Brown, and Patricia Kelly, attempted to determine some of those interpersonal skills (traits) which were common to successful defense acquisition programs (15:20).

Traits of Historical Success

In her article "Searching for Excellence", Ms Kelly, a Professor of Systems Acquisition Management at the DSMC, describes her purpose as: "...to look more closely at (1) the management styles and techniques that tend to characterize successful programs, and (2) the attributes successful program managers said they would look for in selecting a new PM" (12:20). In compiling their data, the DSMC team questioned twenty government program managers, thirteen industry program managers, and six government deputy program managers about the attributes or capabilities they deemed most critical in selecting a PM (15:20,21). Because the DPML is in fact a deputy PM with incumbent responsibility for optimizing the acquisition process, it is obvious that these same traits would also be applicable to selection of the DPML.

The original survey resulted in a list of 82 different traits (or capabilities) which were deemed important (15:23). From these the list was modified to 24 by listing only those which were mentioned by at least three people (15:23). Finally, the list was consolidated to the following ten broad categories:

1. Experience
2. Technical Background
3. Leadership
4. Ability to put a team together
5. Honesty and Integrity
6. Intelligence
7. Energy and Drive
8. Decisive

9. Ability to Get Along with People and Willingness and Ability to Communicate
 10. Willingness to Accept Responsibility and Execute Authority
- Source: (15:23-25)

The above listed attributes appear to be "common sense" areas which would help ensure success in any management effort, but selection of criteria which are capable of measuring those skills is quite another matter. It will, therefore, be of research interest to determine whether current selection criteria are perceived as measurements of these same broad skill areas.

Barriers to Task Accomplishment

Another approach, which may suggest selection criteria, is a review of problems which have historically been barriers to DPML task accomplishment. A 1982 Air Force Institute of Technology (AFIT) research thesis addressed this topic with considerable analysis (14).

The researchers compiled a list of eight probable barriers to integrated logistical support based on a review of current literature and opinions of personnel currently assigned to logistics or acquisition positions (14:32). A total of 45 AFSC program managers assigned to the Aeronautical Systems Division (ASD), and 40 logisticians assigned to the AFALD were interviewed (14:41). The survey resulted in a rank ordering, by each group of the barriers considered (14:41,53,54). The rank ordering of barrier significance among ASD personnel was:

1. Design Goals
 2. Goal Conflict
 3. Skills
 4. Work Relations
 5. DPML Authority
 6. Tools
 7. Logistics Test & Evaluation
 8. Organizational Structure
- Source: (14:54).

Among AFALD personnel the rank ordering was:

1. Design Goals
 2. Goal Conflict
 3. DPML Authority
 4. Skills
 5. Logistics Test & Evaluation
 6. Organizational Structure
 7. Tools
 8. Work Relations
- Source: (14:54)

While most of these barriers are self explanatory, the two barriers labeled "tools" and "skills" bear further explanation. The term "tools," as a barrier, refers to the limitation of the techniques, models, and data from which logistical support analyses are compiled and upon which further actions must be based (14:22,23). There was also an implication that the use and limitations of the logistical analysis tools was linked to the barrier termed "skills" (14:21).

"Skills," as defined by the researchers, includes not only logistics engineering expertise, but also those in the traditional logistical functions of supply, transportation, and maintenance (14:21,22). It is also significant to note that the respondents believed that the most beneficial skills tended to vary with the phase of the acquisition process (14:22). This particular barrier was listed as "...having a high negative impact by both groups...", that is, both ASD and AFALD personnel perceived a "...failure to employ appropriately skilled logisticians during the different phases of the acquisition cycle" (14:70). Additionally, the thesis proposed the cause of this problem to be "...a lack of skilled or trained logistics specialists, or to misassignment of available specialists" (14:70). The researchers refer the interested reader to the source document for an excellent analysis of perceived barriers to ILS.

The current authors wish to address their research to this last barrier. If the current criteria for selection of the "logistics specialists", or DPMLs, can be determined and analyzed, an approach designed to attack the skills barrier" can be formulated.

III. Research Methodology

Research Strategy

To attain the stated research objectives, it was necessary to develop a strategy which would allow the researchers to determine the current selection process, collect and classify data regarding the DFML selection criteria, and determine the opinions of DFMLs and PMs in the field regarding these criteria. As noted in the literature review, there was a lack of published material in these areas. This lack of an established data base, when coupled with need for attitudinal data, indicated a survey approach was most practical (11:213). The logical place to begin data gathering in support of the selection process and criteria research objectives was at the AFALC Deputate level. The reader is reminded of the guidance provided in AFLC/AFSCR 23-50 which charges the AFALC with responsibility for appointment of all DFMLs and ILSMs (3:1). Because of the "open ended" and subjective nature of opinion sampling, the researchers felt the benefits of personal interviewing outweighed any advantages offered by the other survey techniques. One particular benefit of this approach cited by C. William Emory in his text on business research "...is the depth and detail of information that can be secured" (11:294). While an argument can be made for the use of a well constructed mail type survey, the researchers concluded that the barriers of the bureaucratic approval process, excessive time delay, and the possibility of non response were overriding factors.

Emory also notes, "In personal interviewing the researcher must deal with two major problems, bias and cost" (11:299). While the possibility

of bias can not be completely eliminated, it is minimized by using a well constructed interview guide and motivated interviewers who are aware of the potential problems and knowledgeable in techniques for overcoming them (11:299-302). The techniques employed by the researchers for overcoming personal interview problems are covered in following sections which outline specific interview plans for each of the subject populations; however, as a general rule, bias was dealt with by utilizing validated interview guides and only the researchers themselves as interviewers.

Through preliminary interviews with AFALC personnel, it was determined that the DPML selections were divided into two basic categories - those associated with the Aeronautical Systems Division (ASD) and those associated with the other product divisions of the Air Force Systems Command (Armament Division [AD], Electronic Systems Division [ESD], Space Division [SD], and the Ballistic Missile Office [BMO]). Under the current organizational structure of the AFALC (See Figure 1.), the Deputy for Acquisition Logistics, Aeronautical Programs (AFALC/SD), is responsible for the staffing of DPML positions, as well as other logisticians, within the program offices and directorates of the ASD (12:21). The combined logistical staff of a program office is designated as the integrated logistics support office or ILSO (8:2). The staffing responsibility for DPMLs and other ILSO personnel for the remaining AFSC Product Divisions lies within the Deputate for Strategic Missiles, Space, Electronic, and Armament Programs, designated the AFALC/LW (12:21). The centralization of both Deputates at the AFALC, Wright-Patterson AFB, gave greater merit to the interview technique data gathering since the common problems of "cost" and "stringent sampling

techniques" were not present (11:294). Economy of the data gathering was the result of collocation of the AFALC Deputates to the researchers, while the small population (two individuals) allowed for the use of a census interview. The results of the interviews with both deputies provided the data for meeting the first research objective, defining the current selection process and criteria, and formed the basis for gathering information in support of the remaining objectives.

The large number of DPMLs, PMs, and ILSMs (over 500) and their geographical dispersion (Boston to Los Angeles) created a more significant data gathering and measurement problem for the remaining objectives (2). The strategy employed in achieving those objectives will be addressed in following specific interview plans.

Interview Plan for AFALC Deputies

An interview guide for the two AFALC deputies was designed to determine specifics relative to both the DPML selection process and the selection criteria. A copy of the interview guide has been included in Appendix B and conforms to the structured questioning procedure as outlined by C. William Emory (11:298). In addition to gathering demographic data on the two individuals, the purpose of these census interviews was to ensure the researchers had a comprehensive knowledge of the process of DPML selection and its' application across the various divisions (ASD, AD, ESD, SD, and BMO); and determine specific selection criteria within the Deputates of the AFALC.

The possibility of pretesting the interview guide was precluded by the fact that the total population consisted of only two individuals. However, a measurement of validity was obtained by submitting the guide to a panel of four AFIT instructors for evaluation.

Interview Plan for DPMLs

As noted, the large population of DPMLs and ILSMs and their dispersion precluded the use of a census survey employing the interview method. The researchers concluded that the virtues of the interview technique and the limitations of other methods still dictated a personal interview, requiring a sampling method. The selection of a sample size to meet the time and travel budget constraints, while still accomplishing the research objectives, was accomplished in the following manner.

The proximity of the ASD to the researchers, the high dollar value of major ASD programs, and the high proportion of DPMLs within ASD programs indicated a significant portion of the research effort should be concentrated within ASD (2). The Electronic Systems Division (ESD) and the Armament Division (AD) held the next highest concentrations of major programs and DPMLs respectively, and were, therefore, also considered to be excellent sampling populations (2).

Sample Selection. It was determined that a non probabalistic sampling of these three divisions (ASD, ESD, AD) would meet the research objectives, within the time and budget constraints, in a two fold manner. First, over 50 percent of the total population of major program DPMLs would be surveyed (2). Secondly, the analysis of responses would yield indications of uniformity or diversity of opinion across three of the four AFSC product divisions (2). The conditions for advocacy of the non probabalistic sampling technique are well articulated by Emory in his revised text, Business Research Methods (11). The technical advantage most generally ascribed to probability sampling (the alternative to non probabalistic sampling) is the minimization of unknown bias (11:177).

Emory goes on to point out that often the cost and time involved rule out this technique on grounds of feasibility, and that in many cases, "...a true cross section of the population may not be the objective of the research" (11:177).

As with any management undertaking, the criticality of decisions increases with the commitment of organizational resources. In the case of selecting those individuals who will become the logistical support advocates within the SPO, the highest degree of concern should rightfully be focused upon those programs with the greatest commitment of funds, personnel, and other resources. These indicators of high priority and interest by senior DOD managers are manifest by designation of the acquisition as a "major program", and led the researchers to believe that a focus upon the DPMLs (by definition, major program logisticians) rather than a cross section of all ILSO personnel was more appropriate to the research objectives (7). The assumption made in this case is that if clearly established selection criteria were not present, or if there was great dispersion of expert opinion on criteria validity at the major program level, then the likelihood of specific criteria or general acceptance at the less than major program level was remote. The researchers, therefore, set as their interview target population those logistics managers functioning at the major program level (DPMLs). While some DPMLs performed ILSO functions in more than one major program office, the population included 16 different DPMLs at the ASD, and four different DPMLs at the ESD and AD respectively (2). The initial goal was then established as interviewing all members of this non-randomly selected group to determine their perceptions of the selection criteria established by their respective Deputies of the AFALC. While the

sampling technique employed inherently limits the ability to generalize the conclusions across all product divisions, implications concerning the value and direction of future research can certainly be drawn (11:179). Because of the "pilot" nature of the research, the authors felt this limitation was not overly restrictive (11:179).

The Instrument. The interview guide for use in determining the perceptions of the target DPML population was divided into two parts. The first portion follows the structured questioning previously cited for the AFALC deputies (11:298). The purposes of this section were to provide background data on the respondent and ascertain their personal opinions on selection criteria for the DPML. It is important to note that at this point in the interview, the researchers have not advised the respondent of the selection criteria obtained from the AFALC deputies. A copy of this portion of the interview guide is included in Appendix B.

The second portion of the interview consisted of a rating and ranking exercise. The respondent was provided a listing of the selection criteria collected from the previous AFALC Deputate interviews and was requested to perform an opinion rating of concurrence or non-concurrence on the applicability of each criterion. The respondent was then requested to rank order the provided criteria from most to least significant. Both exercises were designed to establish numerical values which could be statistically analyzed. Modified Likert type scales were utilized for both exercises (See Appendix B) because of simplicity, ease of construction, and applicability to a respondent centered attitude study (11:271-273). An additional virtue of a Likert scale is the ease

of adaptation to a specific area or case of interest (11:269,274). When using this scale, there are a few cautions which the researchers feel are necessary to iterate.

Respondents can be reported as basically in agreement or opposition to the use of a particular criterion, and can also indicate a preference for a particular heirarchy in terms of impact. However, overall judgements relative to the entire set of selection criteria cannot be made upon the basis of a "total" score (11:274). The reasoning for this limitation is "...that a given total score can be secured by a wide variety of answer patterns..." (11:274). The researchers believed this limitation was not overly restrictive since attitudes toward individual criterion could be effectively determined. Because the Likert scale is ordinal in its measurement, the median value for each criterion was used for statistical analysis of central tendency with a percentile measure of dispersion (11:125,274). While the vertical orientation of the scale with a zero annotation at the midpoint may present an appearance of interval data with a point of origin, the measurement is none the less ordinal and must be treated as such (11:123). Sidney Siegel in his text on nonparametric statistics clearly states the case for this treatment.

If the measurement is weaker than that of an interval scale, by using parametric tests the researcher would 'add information' and thereby create distortions...Moreover, the assumptions which must be made to justify the use of parametric tests usually rest on conjecture and hope... (20:32).

As with the previous interview guide, a panel of four AFIT instructors were employed to confirm instrument validity. Additionally, a review and critique of the DPML interview guide was provied by the AFALC deputies and their immediate assistants. The purpose of the review

was to provide the researchers feedback to not only assure validity, but also to reaffirm the selection criteria accuracy gathered during the previous interviews. This pretest was supplemented with administration of the rating and ranking scales to five members of the AFIT Graduate Logistics Management Program to ensure clarity of interviewer instructions and to detect any areas of potential confusion. The rating scales were affixed with numerical values after they had been collected from the respondents as a convenient manner of computing central tendency and dispersion.

Interview Plan for Program Managers

The interview plan guide developed to survey program managers was similar to that used for DPMLs. A rating and ranking exercise identical to that utilized in the DPML survey was employed to meet the objectives of determining central trends and dispersion of opinion. The structured questions administered to PMs were, however, focused in a different manner. The researchers attempted to determine the perceived degree of PM influence in the DPML selection process, and the aggregate PM evaluation of merit for the individual selection criteria utilized by the AFALC. A copy of the program manager's interview guide is included in Appendix B.

The same cautions and limitations regarding the implications and analysis of the data collected, as previously discussed in reference to the DPML, is also applicable in this case. The validity of the rating and ranking exercises had been previously established, and was not reaccomplished; however, the structured interview was validated by use of the same AFIT panel of professors and pretested utilizing AFSC personnel from the Aeronautical Systems Division (ASD).

The interview target population was established by use of the DPML interview schedule. The rationale provided in the following section describing the subject sampling plan is applicable to both the DPML and the PM. Indications of central trend and dispersion of opinion within the program manager population were obtained for individual selection criterion and their rank ordering in the same manner employed for the DPML data. These measures were then applied to note specific areas of agreement or diversity between the DPML and PM sample populations; however, no attempt to "match" program managers' and DPMLs' responses from the same program office was made. The researchers felt that such an attempt might prove interesting, but fell outside the scope of the stated objectives.

Subject Contact Plan

The major program offices within the divisions of interest (ASD, ESD, AD) were identified by use of the Acquisition Logistics Management Information System (ALMIS) (2). Discrimination of major programs was accomplished by listing only those programs which were reviewed at the Defense Systems Acquisition Review Council (DSARC) level. DPML name, PM name, office name and symbol, telephone numbers, and a summary description of the system being acquired were extracted from the data base. The individual DPMLs and PMs were then contacted by telephone to establish an interview appointment. During this initial contact, the respondents were provided the objectives of the research and a general outline of the interview topic. While specific questions were not provided, each respondent was advised that opinion data relative to DPML selection criteria would be requested. The respondents were also advised at this contact and at the beginning of each interview that summary data

only would be published and that anonymity would be provided. The only exceptions to this anonymity rule were the AFALC deputies who, by nature of the limited population (2), could not be given that assurance. Documentation of the interviews and exercises was compiled on individual interview sheets for later collation and analysis.

Conducting the Interviews

The interviews with the AFALC deputies were begun with an explanation of the research objectives and purposes. At this point, the interviewers began the series of structured interview questions and recorded the responses on the guide. Because of the open ended nature of the questions, some questions were addressed out of the planned order and some extraneous information was given. The researchers felt that the change in order did not significantly effect the quality or significance of the answers. The additional information provided by the deputies helped clarify the perceptions of the selection process. The interviews were concluded with a collection of respondent demographic data. To assure the accuracy of collected data, the appropriate deputy was asked to review the collated interview summary at a subsequent follow-up meeting.

Interviewing of the DFMLs and PMs was accomplished in the same manner beginning with the introduction and remarks concerning the research purposes. After concluding the structured question portion of the interview, the respondents were provided a list of the compiled selection criteria. The interviewer allowed the respondent to review this data and provided any requested amplification. At this point the rating and ranking exercises were administered. The interviewer attempted to remain detached from the exercise; however, there was no

attempt to withhold any requested clarification. These interviews were also terminated with the collection of respondent demographic data.

IV. Findings and Analysis

Introduction

The findings and Analysis of this thesis will be addressed in the sequence in which the research questions and hypotheses were investigated. Information on the composition and demography of the AFALC Deputies, DFMLs, and PMs interviewed are presented first. The next sections deal with research hypothesis one and the first three research questions, which are concerned with defining the current DFML selection process and criteria. These sections consolidate interview data, primarily from the AFALC Deputies and their staffs, to achieve a common understanding of the selection process and to provide a "baseline" for the remaining research questions, hypotheses, and objectives. The next sections deal with the perceptions of DFMLs and PMs which determine the degree of consensus regarding the selection criteria (Research questions four and five; Hypotheses three and four). These sections include frequency tables which allow for tabular presentation of agreement and dispersion as proposed in Chapter III. The final section includes aggregate data in support of hypothesis four and research question six, namely, the basis for future research, and conclusions which will be expanded upon in the final chapter.

Demographic Composition of Interviewees

As previously noted, Air Force directives, as well as the AFALC/AFSC Memorandum of Agreement, charge the AFALC with responsibility for appointment of DFML and ILSO personnel (3:1;13). Interviews with the two AFALC Deputies and the LW Assistant Deputy provided the researchers the

specifics of the selection process and criteria. The backgrounds of the two deputies were diverse, with Col Smith, AFALC/SD having served primarily within the Air Force Systems Command, while Col Harmon, AFALC/LW had operational assignments (pilot) and logistical experience (aircraft maintenance) (12;21). Both individuals had been in their positions for some time (10 months and 18 months respectively), and were, therefore, able to confidently articulate the selection criteria within their deputates (12;21). It should be noted that while both officers were O-6s, the Deputy position is an unfunded general officer billet (0002) (12).

Appointment of the Deputy for Strategic Missiles, Space, Electronic, and Armament Programs (LW) was largely determined through AFLC channels, while the Deputy for Aeronautical Program (SD) was primarily determined through AFSC channels (12;21). This appears consistent with the dual command nature of the AFALC. It is noteworthy that while the LW Deputy reporting channel is through the AFALC command structure, the SD Deputy reports through AFSC channels, namely, the Commander, Aeronautical Systems Division (ASD) (21).

The senior assistants to each deputy are career civil service personnel with ratings of GM-15 in both deputates. While each has been in his present position for approximately one year, they have a combined total of acquisition and logistics experience exceeding 35 years, and have a significant impact in the selection process as well as providing potential stability within the AFALC Deputates (12;21). This stability is especially significant in light of the numerous reorganizations and redesignations that have occurred within the AFALC over the past three years (18;22). While the objectives and impacts of these changes are

beyond the scope of this paper, it appears as though the primary driver is to closely align organizational structure with rapidly evolving acquisition policy goals (22).

As noted in Chapter III, field interviews with DPMLs and PMs in major program offices of the Aeronautical Systems, Electronic Systems, and Armament Divisions were conducted. The dollar value of development programs within these Divisions ranged from approximately \$2.1 million to more than \$80 billion, and ranged in acquisition phases from pre-conceptual through production and deployment. Additionally, many programs were experiencing concurrent acquisition phases. The rank of program management officers (PMs) ranged from Captain to Major General, while DPMLs interviewed ranged from Major to Colonel. Civil service personnel fulfilling positions as both PMs and DPMLs ranged from GS-12 to GM-15. A complete list of personnel interviewed is included in Appendix B - Interview Schedule.

The original goal of interviewing the entire group of DPMLs and PMs within ASD, ESD, and AD was not achieved due to schedule conflicts and further facts discovered in the course of the research. Two programs originally designated as major program offices within ASD were, upon contact with the SPO personnel, determined to be liason offices while the actual program structure was located in Washington DC. Inability to contact those offices where schedule conflicts precluded interviews within the established time guidelines was not deemed a serious deviation as 18 of the target 22 DPMLs were interviewed, 19 of the target 20 PMs were contacted, and both DPML and PM interviews were conducted within all three of the target product divisions.

For clarity and ease of comparison, the responses of the DPMLs and

PMs are presented separately for both the rating and ranking exercise, as well as the open ended questions; however, a summary table of aggregate responses is also provided to illustrate agreement and dispersion of the entire SPO field sample. As will become apparent, the selection process and selection criteria are mutually interdependent; however, for simplicity of presentation, they will be outlined in separate sections.

Selection Process

Research hypothesis one proposes that there is, in fact, a set of selection criteria by which DPMLs are selected. If this hypothesis is factually established (which will be accomplished in the next section) the implication, as well as "common sense," dictates there is a process by which vacancies are identified, candidates for consideration are nominated, and a final selection and appointment is completed. Research questions one and three were focused to outline that process, and determine its consistency among the various product divisions. Interviews with the AFALC Deputies and their staff provided the data for answering these research questions and supporting the hypothesis that a process and criteria are "alive" within the AFALC.

It is helpful to recall that the SD is responsible for DPML appointments within the ASD, while the LW is charged for DPML appointments within the remaining product divisions. Such being the case, selection consistency within all divisions, excepting ASD, may be intuitively assumed. Determination of both process and criteria used within the two deputates confirmed consistency between them, as well as a cooperative assignment effort across SD and LW organizational boundaries (18).

That is to say, nominations and selections within one deputate often involved search and consultation within the other AFALC deputate (18).

The selection process is set in motion with a determination of need. This determination may be illuminated by one of several sources - Military Personnel Center (MPC) notification of reassignment of a current DPML; AFALC assignment of the DPML to a different program office or staff position within the AFALC; request by a program director or product division for assignment/reassignment (for a variety of reasons); and finally, major program changes (phase, direction, termination, etc.) which dictate a different skill/experience type for optimal achievement (12;18;21). The relatively small number of major programs allows for continuous personnel assignment overview at the product division and AFALC Deputate levels (12;18). This monitoring, when coupled with a strong working relationship with MPC, generally provides adequate lead time for a thorough review of potential DPML candidates (18). It is essential to emphasize that all DPML assignments (by definition - major program logistical support directors) are individually selected, rather than assigned by Air Force specialty code (AFSC) at MPC from a "pool" of resources (12;18;21). This is primarily a result of the individual program unique requirements, and the optimum background and experience desired at specific phases of the acquisition life cycle (12;18;21). Further, there is no specific acquisition logistics specialty code or identifier from which individuals may be nominated or selected (12). As a result, and further by deputate design and desire, acquisition logisticians and DPMLs are appointed from a wide variety of career backgrounds and disciplines (12;18;21).

While the selection process may be characterized by a cycle of need determination, identification of potential personnel, selection, and appointment by official orders, further description is necessary to avoid oversimplification. The actual process of identifying candidates, finalizing selection, and securing approval is as diverse as the programs to which the DPMLs are assigned. The driving force in determining the field of contenders and the selectee is the matching of program characteristics (type and phase of system, sensitivity, scope, etc) with the qualifications and experience of the individual(s) (12;18;21). The analogy forwarded by Mr Robert Owen, Assistant to the LW Deputy, well illustrates this point. In selecting a DPML for the Advanced Tactical Fighter Program (ATF) which was "barely in the conceptual phase," the desired appointee would: 1) Have operational experience in tactical fighters (preferably a pilot) to allow for ease of communication and coordination with the user (primarily TAC) in development of a well defined statement of system performance specifications; 2) Have an engineering background to readily assimilate design characteristics and to incorporate logistical considerations "early on" in the design phase; 3) Have previous experience in both acquisition and acquisition logistics management because of the substantial interface with the product division (AFSC) and logistical support (AFLC) communities (18). Additional traits desired were past SPO experience and at least some degree of assignment stability to reduce organizational and "non-programmatical" barriers to logistical integration (18). The final selectee, as well as a small group of candidates, did, in fact, possess all of these program driven selection traits or criteria (18).

Inputs to the candidate list are derived from personal recommendations/nominations of AFALC Deputate staff, SPO directors (PMs), other DPMLs and directors of logistics, AFSC product division Directors of Acquisition Logistics (ALs) and Commanders, AFLC Headquarters and field agencies (such as Air Logistics Centers), and, in a select few programs, the AFLC and AFSC Commanders (12;18;21). In many cases "self-nominations" are received at the AFALC Deputy and staff levels (12;18;21). "Self-nomination" refers to the many personal requests by individuals for consideration in present and future DPML/ILSO positions. The collocation (Wright-Patterson AFB) of the AFALC with the resident AFIT graduate school, particularly the School of Systems and Logistics, provides a fertile area for "self-nominations", as well as active recruitment of graduates (21). The above listing is not an exhaustive enumeration of potential DPMLs, but it does encompass the general sources of candidates for appointment.

The degree to which any of the above sources bear extraordinary influence upon the selection is appointment specific. For example, the selection of a DPML for a major effort, such as the B-1 acquisition with its high dollar cost, complexity, defense mission capability/need, and political sensitivity, would intuitively (and in fact did) draw the deliberation of Air Force senior (General) officers such as the AFLC and AFSC Commanders (18). The field of possible candidates is also narrowed, in many cases, by the rank structure of the specific position (12;18;21). As in the previous example, the B-1, and in other positions, such as the F-16 SPO or major product division Directors of Acquisition Logistics (ALs), the candidate list is comprised of officers in the rank of Colonel (O-6) only (12;18;21). The reasoning for this limitation is beyond the

scope of this paper; however, suffice it to say that the broad and significant experience requirements, as well as the "horsepower" required to expedite critical issues are among the key motivators (12;18;21). As the demographic data suggests, the less than "super SPO" major programs are staffed by DPMLs in the field grade ranks of Major (O-4) and Lt Colonel (O-5) and civil service ratings of GS-12, GS-13, GS-14, and GM-15.

Once a list of program requirements is determined, the selection process becomes one of matching those needs with the background and skills of potential candidates (12;18;21). This process is primarily conducted within the deputation of primary responsibility (SD for ASD programs for example) with inputs from the sources and in the manner articulated. The criteria used in forwarding a nomination for appointment by the AFALC Commander will be specifically covered in the next section; however, one must be aware of the subjective and judgemental application of the objective criteria. There is no numerical "score" attached to nominees, and the "weight" given to any single criterion is determined by the programmatic needs (12;18;21). The final step in the selection process is the formalization by official appointment, which, in accordance with current directives, is the responsibility of the Commander, AFALC. This culmination of effort, and the degree to which any of the mentioned sources influence that decision may be considered "process routine" but "application variable." Research confirms the contention that a process of DPML selection is clearly definable at the AFALC, that each appointment considers specific criteria

with a goal of matching program needs to skills available; however, the application of specific criteria and their weighting is unique to the current program specific environment.

Selection Criteria

The assignment principle of best qualified and available personnel to fill an identified need is no less true for DPML assignments than for any other Air Force assignment. While many of the criteria collected from interviews with AFALC deputies and staff would certainly be applicable to other positions within the Air Force, the diversity of demands, long term criticality of decisions, and the uniqueness of each program dictate the subjective, simultaneous application and weighting of many criteria.

As noted in Chapter II, the many broad spectrum tasks and roles of the DPML vary significantly within the acquisition cycle of a single weapon system, and become even more pronounced as the heirarchy from system to system and product division to product division is traversed. Nonetheless, a set of eight general selection criteria were collated from interviews with the AFALC Deputies and staff. Because the separate interviews which encompassed the decision makers for all product division DPMLs yielded the same criteria, with only minor semantical differences, the researchers were totally confident that the AFALC DPML selection criteria were consistent with and across product division lines (Research question 3). This finding is re-enforced by the fact that all product division appointments, other than ASD, are made within one deputate (LW) (12;21). The previously noted cross-flow of data between the AFALC Deputates also supports the same finding. While the exclusion of Space Division and the Ballistic Missile Office DPMLs and PMs from the

non-probabilistic interview sample may limit the generalizability of "field perceptions" of the criteria, the same limitation does not apply for articulating those criteria or the selection process. The eight general selection criteria established from the AFALC interviews, which will be individually described in more detail, include:

1. Past performance
2. Education
3. Experience
4. Rank/Grade
5. Program phase
6. Program size
7. Individual career progression/broadening
8. Personal traits (12;18;21)

It is clear that these criteria consider program needs and personnel qualifications, as well as provision of an experience base for enhancing future DFML assignments.

Past Performance. This broad criterion encompasses what the AFALC Deputies considered as one of the most significant considerations (12;18;21). The basis for this claim being that an individual who is a "proven performer" is likely to continue to do so even if placed in a new and challenging environment (12;18;21). The primary measurement tool of past performance is the Officer Effectiveness Report (OER) or its civil service counterpart (12;21). The performance report is viewed not only in terms of numerical ratings (which many feel are inflated), but also in terms of job title and specific accomplishments (12;21). Further, progressive review of several recent reports can provide a "picture" of progression (or regression) in responsibility, as well as increasingly or decreasingly demanding job environments. Other input for this criteria may be provided by awards/decorations received, or personal contact with previous supervisors and co-workers (12;21).

Education. This criteria relates to academic background or degree(s), as opposed to technical training. One example cited is the positive influence of a graduate degree from the Air Force Institute of Technology (AFIT) (12;21). Education is considered not only in terms of level (BS,MS,PhD), but also by specialty. For example, an engineering degree might prove especially beneficial during the design and pre-production planning phases of the acquisition cycle (12;18;21). Despite these positive influences and relevancy, education was not considered to be a high determinant of selection relative to other articulated criteria.

Experience. This rating tool, while considered to be of great impact on the selection process, was very subjective and broadly interpreted. As was described in the ATF analogy, a wide range of experience (operational, maintenance, acquisition, etc) was preferred, as well as specific experience dictated by the nature and phase of the acquisition (12;18;21). In the deployment phase, previous assignments within a Wing level maintenance unit or supply squadron are deemed highly beneficial (12;18;21). Past performance within both the logistics and acquisition communities was considered a "head start" in overcoming organizational barriers to logistical task accomplishment (12;18;21). Trade-offs in experience breadth and depth are inherent in the selection process if this criterion is to be optimized. Balance between experience and the need to provide job training background for future DPMLs must also be struck (12;21). Having been previously assigned as an ILSM on a "less than major" program was considered the best training ground by one senior DPML interviewed; however, the Air Force cannot afford to live by the adage, "you can't be one until you've been one." Retention and

identification of personnel possessing experience in the acquisition logistics field will be further discussed in the conclusions/recommendations chapter (Chapter V).

Rank. Military rank or civil service grade may be considered as a disqualifier as well as a selection criterion (12;18;21). That is, certain positions within the acquisition community, namely, Directors of Acquisition Logistics at the product division level, and certain high intensity programs (B-1, F-16 require an O-6 (or civilian equivalent) by their inherent nature/scope, organizational heirarchy, or by historical precedence (12;18;21). In such appointments, consideration of appropriate grade/rank reduces the number of candidates and must be considered a limiting criterion. Working relationships, military organizational structure, and the broader experience base of more senior personnel are substantial issues which dictate this approach. It is the researchers' opinion that peripheral issues such as dates of rank, years of service, and their implications for the gaining organizational heirarchy (political issues) do play at least a minor role in the selection process, but the data collected is inconclusive.

Program Phase and Size. These two criteria will be covered in one section because of their destinction as programmatic rather than personal criteria. As noted, the requirements of the specific acquisition in terms of criticality, dollar value and personnel assigned (size measurements), AF/DOD interest, and phase of the acquisition cycle are primary "movers" in determining the application and degree of other selection criteria. Any of the program criteria may dictate selection of a senior ranking, more broadly experienced DPML. While the number of programs observed is limited, the researchers have noted positive

correlation between the dollar value of funds committed to a program and the seniority of the DFML and the PM. This commitment of resources, both dollars and personnel, also tends to correlate positively with the program phase. At milestones two and three, where full scale development and production decisions are finalized, program budgets and staff tend to grow significantly (12;21). These programmatic challenges provide additional motivation for the selection process to be "honed" to peak performance.

While one AFALC Deputy emphasized that the "right" individual can function effectively in any size program (tasks are similar, but on a different scale) or phase, both deputies agreed that program unique requirements were essential consideration factors (12;18;21).

Individual Career Progression/Broadening. This selection input is primarily concerned with continual development of personnel in the acquisition logistics disciplines (12;21). The goal of this consideration is to improve performance in existing programs, and to provide a pool of experienced personnel for future acquisition programs (12;18;21). Selection as a DFML for a "smaller" program (recall a DFML is by definition assigned to a major program) may well be the logical and efficient training "capstone" in preparing the logistician to function in a more demanding position and may provide the deciding factor among otherwise equally rated contenders (12;18;21).

While it appears that career broadening and progression are considered virtues by all personnel interviewed (SPO and AFALC), one must be cautious in balancing program requirements, skill/experience levels, and the need to take the long term training viewpoint. People and career management, a vital portion of the AFALC Deputates' responsibility, dictate an aggressive approach to career development and training;

however, program managers, DPMLs, and the SPO staff must stress continued performance while this "on the job" training is accomplished.

Personal Traits. This last, broad criterion is perhaps the most nebulous of those articulated, but was nonetheless considered extremely important by both AFALC Deputies, their staffs, and SPO personnel. Personal traits covered a broad spectrum of characteristics which ranged from leadership and motivational skills (deemed the single most important trait by one senior program manager) to the ability to speak and write effectively (communication skills) to projection of a positive image (appearance and bearing). All of these personal traits tend to focus upon the role of a DPML functioning as a coordinator of people and tasks in the often difficult *matrix management* structure (See Chapter II for more detail on matrix organization). These same traits also support the DPML role of "advocate" for his program (and its inherent logistical support elements) as it winds its way through the complex and demanding review process of the acquisition cycle. Field perceptions of DPMLs and PMs, which will be covered in more detail in the next section, were especially strong in rating this criterion as "absolutely essential" for effective performance, if not "survival."

Measurement of these attributes is aided by specific portions of the effectiveness report; however, one must again be cognizant of the subjective nature of evaluation of such non-quantifiable virtues - What distinguishes an effective writer or speaker from a superb one? Can leadership or motivational skills be given a clear definition? Can or should a sound program be terminated, while a marginal one continues

based purely upon the "sales job" of the DPML or PM? The answers to these and other relevant questions are seldom amenable to a yes/no answer and, therefore, demand a subjective, judgemental approach.

Process and Criteria Summary

The ability to articulate the selection criteria and process of DPML appointments within the AFALC is prima facia evidence of their existence. The previous findings and analysis fully support the acceptance of research hypothesis one - that a selection process and criteria have been established at the AFALC - and have also provided the answers to the first three research questions dealing with the definition of the selection process and criteria, and establishing consistency across product division lines.

In the following sections, the researchers will present their findings relative to DPML and PM perceptions of the process and criteria, but it is appropriate to conclude this section with some "field perception" statistical information. Despite the fact that a majority of currently assigned DPMLs interviewed actively sought a DPML appointment, less than half (44%) indicated a sound comprehension of the selection criteria. Of the PMs interviewed, over half (53%) were the program manager when their current DPML was appointed, yet only 37 percent indicated an awareness of either the process or criteria. This is in contrast to the often heard desire for greater PM input in the DPML selection (just over 21% rated lack of PM input as the "greatest barrier" in the DPML assignment process). It is important for the reader to note that the statistical data presented in this section was extracted from open ended interview questions and is therefore subject to some biasing on the part of both the respondents and interviewers. Nonetheless, the

researchers felt the data supported the proposition that a relatively low field (SPO) awareness of the DPML selection process and criteria existed. Since less than half (44%) of the DPMLs also indicated a lack of familiarity with the selection criteria, the researchers felt that hypothesis two - that a field perception of the selection criteria existed and their relative merits could be determined - could not be fully accepted; however, once provided a listing, perceptions of their merit were readily attainable from both DPML and PM rating and ranking exercises (See Chapter III for detailing of the rating and ranking exercises).

DPML Perceptions

As noted in the research methodology chapter, a Likert type scale was used to determine DPML perceptions of relevance for each of the AFALC articulated selection criteria. A five point graduated rating from highly relevant (+2) to irrelevant (-2) for individual criterion, and a precedence ranking scale (horizontal) for all criteria were designed as a primarily "stand alone" survey instrument (A copy of the exercise is provided in Appendix B - Interview Schedule). Numerical scores were not attached to the instrument until after the interview in which it was completed, and were used solely as a methodology for compiling statistical analysis (median, mode, percentile rating, etc.). The researchers found that the broad nature of the criteria often required further amplification and definition from the interviewer as the respondents completed the exercises. It is believed that this clarification did not substantially bias the responses, or therefore,

affect their validity. It is further postulated that, by nature of the articulated criteria, no more effective nor more free of bias research technique could have been employed.

The median score (on the +2 to -2 scale) and percentages of DPML respondents ratings of each of the criterion are summarized in Table I, and suggest significant agreement for specific criterion. Respondents appeared to have no particular difficulty in rating individual criteria relevancy, nor in determining the top and bottom precedences (See Table II). The data, however, indicates no clear cut order or consensus for middle precedence ranking criteria. Additionally, the small sample size of 18 tends to inflate "outlier" results - rating or ranking by one individual results in a 5.6 percentage response for the appropriate category. From the results, as indicated in Table I and II, it was apparent that past performance, experience, and personal traits were considered as most relevant and significant by practicing DPMLs. Equally apparent was the conclusion that all criteria were deemed appropriate (the lowest median score was +.5 indicating a rating between relevant and indifferent). The lowest ratings were varied throughout the remaining criteria, and although inferences can be made, the researchers do not believe the data strongly supports any conclusions relative to the "least significant" criteria.

The responses to open ended questions support the indicated importance which DPMLs place upon the top three rated criteria. A record of sound past performance, within any career specialty, appeared to be an acknowledged requirement for consideration as a DPML. When queried as to what background they deemed especially helpful in their duties, DPMLs responded overwhelmingly that previous logistics experience (at the

TABLE I
DPML CRITERION RATING RESULTS

Criteria	Rating Category Percentages						
	Highly Relevant (+2)	Relevant (+1)	Indifferent (0)	Somewhat Irrelevant (-1)	Irrelevant (-2)	Median Score	Modal Score
Past Performance	61.1%	38.9%	-	-	-	+2	+2
Education	-	55.6%	33.4%	5.5%	5.5%	+1	+1
Experience	33.3%	61.1%	5.6%	-	-	+1	+2
Rank	16.7%	44.5%	27.8%	5.5%	5.5%	+1	+1
Program Phase	22.2%	27.8%	11.1%	22.2%	16.7%	+5	+1
Program Size	5.5%	66.7%	22.2%	-	5.5%	+1	+1
Career Progression/ Broadening	22.2%	27.8%	27.8%	5.5%	16.7%	+5	Bi- Modal +1/0
Personal Traits	55.6%	38.9%	5.5%	-	-	+2	+2

TABLE II
DPML RANK ORDER RATING OF SELECTION CRITERIA

Criteria	Percentage Rated in Top Three	Percentage Rated in Last Three
Past Performance	88.9%	-0-
Education	16.7%	50.0%
Experience	72.2%	5.6%
Rank	11.1%	55.6%
Program Phase	22.2%	72.2%
Program Size	11.1%	55.6%
Career Progression/ Broadening	11.1%	50.0%
Personal Traits	66.7%	11.1%

Headquarters, Air Logistics Center, or Wing/Squadron level) and previous SPO/ILSO assignments were most beneficial. Only one other category, operational flying, was even mentioned by the DPMLs (2 individuals) as helpful. These same areas were also stressed by DPMLs as criteria they would utilize if they were to pick their successors; however, an added category of communication and leadership abilities also received considerable attention (50% of all DPMLs interviewed offered this category as a personal selection criteria). Finally, a full two-thirds (67%) of the DPMLs interviewed stated that, if given the opportunity to modify the current selection process or criteria (as they perceived them to be currently), they would place greater emphasis upon the candidates' previous acquisition experience.

Program Manager Perceptions

The same rating and ranking exercises which were administered to DPMLs were also utilized to identify perceptions of the program managers. The results of both the relevancy grading and rank ordering (See Tables III and IV) are presented in the same format as those of the DPMLs to facilitate comprehension and comparison. The same considerations concerning interviewer amplification, small sample size (19), ease of respondents' top selections, and apparent variability in "middle rated" criteria also hold true for the PM interviews. As was the case for the DPMLs, past performance, experience, and personal traits were clearly considered most relevant and significant, and the lower and middle ranked criteria varied with one notable exception. The utilization of career progression and broadening as a selection criterion received a median score of 0 (indifferent) and was rated amongst the bottom three in

TABLE III
PM CRITERION RATING RESULTS

Criteria	Rating Category Percentages					Median Score	Model Score
	Highly Relevant (+2)	Relevant (+1)	Indifferent (0)	Somewhat Irrelevant (-1)	Irrelevant (-2)		
Past Performance	84.0%	5.3%	5.3%	5.3%	-	+2	+2
Education	15.8%	36.8%	31.6%	5.3%	10.5%	+1	+1
Experience	73.7%	26.3%	-	-	-	+2	+2
Rank	5.3%	73.7%	15.8%	5.3%	-	+1	+1
Program Phase	21.0%	57.9%	15.8%	5.3%	-	+1	+1
Program Size	10.5%	52.6%	21.0%	15.8%	-	+1	+1
Career Progression/ Broadening	5.3%	36.8%	21.0%	36.8%	-	0	Bi-Modal +1/-1
Personal Traits	42.1%	47.4%	5.3%	5.3%	-	+1	+1

TABLE IV
PM RANK ORDER RATING OF SELECTION CRITERIA

Criteria	Percentage Rated in Top Three	Percentage Rated in Last Three
Past Performance	89.5%	10.5%
Education	26.3%	47.4%
Experience	89.5%	-0-
Rank	15.8%	42.1%
Program Phase	15.8%	31.6%
Program Size	5.3%	57.9%
Career Progression/ Broadening	-0-	78.9%
Personal Traits	57.9%	31.6%

significance by nearly 80 percent (78.9%) of the program managers interviewed. While parametric analysis will not be utilized, it is interesting to note that this criterion exhibited bi-modal scores (highest frequency of response) at the +1 (relevant) and -1 (somewhat irrelevant) ratings, and a mean (average) rating of .11 (just above indifferent). These results are both consistent with interview responses - "my program can not afford to serve as a training program" - and paradoxical - "DPMLs need more acquisition/SPO practical experience."

The dispersion of the data as well as the relatively small sample size restrict the researchers from further well supported conclusions as to the lowest ranking criteria; however, the percentile values do provide the reader with insights to the program managers' perceptions.

The open ended question responses of program managers tended to re-enforce the conclusions drawn from the rating and ranking exercise but, additionally, brought new issues to the foreground. As noted, the PMs felt previous acquisition experience should receive strong consideration in the DPML selection process. Of those interviewed, nearly 85 percent (84.2%) stated that they would utilize past acquisition experience as a mandatory qualification. Further, 31.6 percent of the PMs cited a lack of acquisition experience as the "greatest barrier" in the DPML selection and assignment process. As previously articulated, this is somewhat paradoxical when one considers the relatively low rating that career broadening/progression received from the PMs as a selection criteria.

Another concern of the PMs which the open ended questions identified was the degree of PM influence in the selection process. Nearly

three-quarters (73.7%) of the PMs interviewed stated that they had no input in the selection of their programs' DPML (or their predecessor PM in the case of those programs where the DPML was "in place" when the current PM was assigned). This concern was consistent with the results of another question posed the PMs which indicated that only 36.8 percent of them (PMs) perceived themselves to be familiar with the selection process and criteria. A lack of PM input was considered as the most significant barrier to the selection process by 21 percent of those PMs interviewed. This valid concern was somewhat moderated and placed in perspective by the fact that nearly one-third (31.6%) of the PMs indicated they would not prefer any changes to the current selection process or criteria.

The last topic which garnered considerable attention from the program managers was the timing of the selection process and availability of DPMLs. Timeliness of the selection process was considered a significant problem by 42 percent of the PMs interviewed. This particular issue took on several facets which included delay in initial assignment of a DPML, significant delay of a replacement DPML, and rapid turnover of DPMLs. While delays in personnel assignments are not unique to the DPML position, and priorities of those in individual offices may be somewhat narrower in perspective; timeliness is an issue which bears consideration in the DPML assignment process. It is significant to note that DPML assignments (regulations notwithstanding) are not exclusively within the purview of the AFALC. Two program offices, the IR Maverick and F-15, are logistically staffed (including the DPML) by the Air Logistics Center (ALC) which exercises management responsibilities for those systems. While these programs are exceptions to the rule, the

researchers were unable to conclusively determine the reasoning for their unique treatment. It is also of significance that one program, staffed by other than AFALC, was left vacant in the DPML position for several months.

Summary of Aggregate Data

While the use of previous data tables for DPMLs and PMs has provided insights into their perceptions, the researchers also wish to provide the reader with two additional tables which combine the relevancy and rank ordering of the DPML selection criteria for all SPO personnel interviewed (PMs and DPMLs). The authors contend that the larger sample size, and the inclusion of both groups will provide meaningful information as to aggregate program office perceptions of the present selection criteria (See Tables V and VI). Also included, for comparative purposes, is the modal score (rating most frequently given) for each of the rating criteria.

Utilizing the percentage of respondents who rated each criterion within the top three in terms of impact, a heirarchy of criterion significance appears as follows:

1. Past performance
2. Experience
3. Personal Traits
4. Education
5. Program Phase
6. Rank/Grade
7. Program Size
8. Individual career progression/broadening

A heirarchy utilizing the minimum ratings in the "bottom three" category resulted in a transition of experience and past performance (as the

TABLE V
AGGREGATE SPO CRITERIA RATING RESULTS

Criteria	Rating Category Percentages						Median Score	Modal Score
	Highly Relevant (+2)	Relevant (+1)	Indifferent (0)	Somewhat Irrelevant (-1)	Irrelevant (-2)			
Past Performance	73.0%	21.6%	2.7%	2.7%	-	+2	+2	
Education	8.1%	46.0%	32.4%	5.4%	8.1%	+1	+1	
Experience	54.1%	43.2%	2.7%	-	-	+2	+2	
Rank	10.8%	59.5%	21.6%	5.4%	2.7%	+1	+1	
Program Phase	21.6%	43.2%	13.5%	13.5%	8.1%	+1	+1	
Program Size	8.1%	59.5%	21.6%	8.1%	2.7%	+1	+1	
Career Progression/ Broadening	13.5%	32.4%	24.3%	21.6%	8.1%	0	+1	
Personal Traits	48.6%	43.2%	5.4%	2.7%	-	+1	+2	

TABLE VI

AGGREGATE SPO RANK ORDER RATING OF SELECTION CRITERIA

Criteria	Percentage Rated in Top Three	Percentage Rated in Bottom Three	Other Than Top or Bottom Three Rating
Past Performance	89.2%	5.4%	5.4%
Education	21.6%	48.6%	29.8%
Experience	81.1%	2.7%	16.2%
Rank	10.8%	48.6%	40.6%
Program Phase	18.9%	51.3%	29.8%
Program Size	8.1%	56.7%	35.2%
Career Progression/ Broadening	5.4%	56.7%	37.9%
Personal Traits	62.2%	21.6%	16.2%

number one and two ranked criterion) and a tie for the lowest rated criterion between program size and individual career progression/broadening.

Open ended questions and discussions with DPMLs and PMs, as well as with AFALC Deputies, indicated the nature and focus of the acquisition cycle were significant factors in the DPML selection process; however, these programmatic factors were essentially transposed to experience and past performance selection criteria. This appears to account for the relatively mid-range ranking of the program phase criterion (5th of 8). These same discussions also focused attention on the fact that program size (in dollar and personnel terms) was not an extraordinarily determinant of the task loading of the DPML. It was noted that the volume of requirements and tasks were similar for any major program, even though political interest or assumed criticality of certain acquisitions brought higher levels of attention. The researchers believe this attitude is widely held by SPO personnel and therefore accounts for the lower ranking of program size as a selection criterion (7th of 8).

Individual career progression/broadening was the lowest rated criterion, in terms of relative impact, by both the DPMLs and PMs individually and in aggregate. Rating and ranking statistical results, summarized in Tables I through VI, as well as respondent interviews, indicated that SPO personnel were very concerned with building acquisition experience; however, relative to other articulated criteria, this selection aspect was of lesser significance. Open ended questions regarding the manner in which this "desired experience" could be

assimilated focused upon personnel assignments within an ILSO at less than the DPML level, and provided a method of identifying that experience for further development and eventual assignment as a DPML. Further discussion of this topic will be included in Chapter V - Conclusions and Recommendations.

As with any research effort, the interpretation, categorization, and presentation of statistical and interview data is basically subjective. It is the researchers belief that the methodology, use of tabular presentations, and further support of statistical findings by respondents' candid replies to open ended questions has provided a significant degree of objectivity to their analysis of the DPML selection process and criteria. While differing conclusions and implications may be supported by the same information, establishment of a current data base (outlining the process, criteria, and field perceptions) has been accomplished in accordance with the research objectives. The implications, conclusions, and recommendations of the researchers, based upon the collected data, is the subject of the final chapter of this thesis.

V. Conclusions and Recommendations

Introduction

This chapter will, by way of summary of previous information presented, provide the reader with the interpretations, implications, conclusions, and recommendations of the researchers. As in Chapter IV, the order in which these propositions are presented follows the hypotheses and questions posed earlier (Chapter I). Further, the presentation provides an overview of the researcher's manner of investigation which involved determination of the process and criteria at its source of development; consolidation of field perceptions, noting agreement or disparity; and finally, the development of logical conclusions.

Selection Process and Criteria

Research hypothesis one, and the first three research questions dealt with defining the DFML selection process and criteria developed and implemented at the Air Force Acquisition Logistics Center (AFALC). The outlining of this process by the AFALC Deputies confirms that such a process exists, and does in fact utilize the selection criteria articulated. While, as noted, the influence of any particular group (PMs, Directors of Acquisition Logistics [ALs], Product Division Commanders, etc.) or weighting of specific selection criteria varies as to the specifics of the assigned program office, the process itself, as well as a number of specific criteria considered is consistently applied. The data gathered implies a consistency across product division lines, and within each of the product divisions. It was the opinion of the

researchers that the product divisions have considerable influence in the selection process for their own programs. That is, the Directors of Acquisition Logistics, who staff the ILSOs at less than the DPML level, and the Division Commanders, who are most familiar with the unique aspects of their divisions tend to speak with a "loud voice" in determining candidates and final selections as DPMLs. Further, it appears as though the greatest focus of the AFALC, and attention of the resident staff (Wright-Patterson AFB) is upon the Aeronautical Systems Division. This is accounted for not only by the close physical proximity, but also the fact that this is the largest division in terms of personnel, programs, and dollar value (12;21). These statements are not meant to imply correctness or impropriety, but are merely observations of the researchers as to the present state. If these suppositions are correct, then the variability with which the selection criteria are applied is likely to be considered. Field perceptions (or lack thereof) of the current criteria and process support this variability. The unique nature of each division's programs, despite the use of a basically common acquisition process, tends to support this flexible, "custom made" approach; however, the researchers (as well as several respondents interviewed) believe the process could be enhanced by instituting a method of tracking previous acquisition experience.

The current system of nominations (discussed in Chapter IV) may well allow for well-qualified individuals to be omitted from consideration. A system which relies upon the "corporate memory" of individuals (no matter how numerous or capable) is inherently plagued with this problem. While not an original recommendation, the authors highly endorse the use of a special (acquisition) identifier to aid in the compilation of

potential DPMLs. Many field personnel (PMs and DPMLs) believe the use of a special experience identifier would also be an effective means of overcoming the lack of acquisition experience they perceive to be a significant problem (See Chapter IV). A determination of what type or duration of experience would be necessary to receive the identifier are administrative obstacles to be overcome; however, the main concern should be whether or not such a technique is needed. The fact that 34.2 percent of the PMs interviewed felt previous acquisition experience was mandatory for a DPML, and 31.6 percent indicated a "lack of acquisition experienced" as the greatest barrier to the selection process indicate their (PMs) strong feelings relative to identification of that background. Two-thirds (67%) of the DPMLs interviewed stated that greater emphasis should be placed upon acquisition experience. While the reasoning for not establishing an acquisition logistics specialty code (AFSC) was well articulated (primarily, the desire to maintain an emphasis upon user experience needs), the same proposition would not hold true for utilization of a special experience identifier. The concerns of SPO personnel and the data assimilated by the researchers lead them to recommend serious consideration be given to such a proposal.

The DPML selection criteria collected from AFALC interviews, though general, are deemed highly appropriate. As has been emphasized throughout, these criteria are applied subjectively and with emphasis varying to match programmatic needs. Field responses (both PMs and DPMLs) as to the relevancy of each of the criteria support this contention, with only one criterion receiving a median score below relevant (+1). The explanation for the career progression/development criterion rating appears to be generated primarily by one's perspective.

While the SPO personnel can hardly be faulted for their emphasis upon fully qualified and experienced appointees, neither can the AFALC Deputates and staff be faulted for their efforts in developing those qualifications. The middle ground of developing acquisition logisticians within the ILSO, and progression as a DPML in programs of increasing scope, interspersed with assignments in user commands seems to be not only the most reasonable approach; but also the one currently practiced. The researchers can only recommend that the current level of concern for career development continue to be balanced with the needs of the SPO for experienced DPMLs.

Field Perceptions

Specific rating of selection criteria and perceptions of DPMLs and PMs concerning the selection process have been thoroughly addressed in Chapter IV. The researchers conclude that both the PMs and DPMLs are basically in agreement, but were somewhat surprised by the apparent lack of knowledge as concerns both the process and criteria (Recall: 44% of the DPMLs and 63% of the PMs indicated a lack of familiarity with the selection process and criteria). While statistics may be misleading, and questions may be interpreted differently, the researchers, nonetheless, must conclude that there is a general lack of understanding of the DPML selection process at the SPO level. While not conclusively supported by the data, the researchers felt that SPO personnel had a much better grasp of the selection criteria than the selection process, though perhaps not in the same terminology. The strong central support of top rated criteria, as well as the expanded open ended interview responses, supports this contention. Once again, it is important to note that these characteristics (or criteria) are not the exclusive domain of DPML

selection, and are rightfully applied to most management areas. The researchers feel that benefits could be derived by the acquisition community as a whole by further research in areas such as measurement and determination of the "most appropriate" background and experience for a future DPML. These research efforts could focus upon barriers and issues noted in this thesis as well as others (notably, "Barriers to fully Implementing Integrated Logistics Support...", cited in Chapters I and II) with a goal of continuing the evolution toward an optimal process.

The final recommendation generated by the field research concerns the input of program managers to the DPML selection process. As emphasized in preceeding sections, the degree of influence which the PM exerts covers a broad spectrum. Recall that 73.7 percent of the PMs interviewed stated they had no input in the selection of their DPML, while in other programs, the PM is the reporting official for the DPML (contrary to the normal matrix assignment reporting structure). One would assume that in those cases (where the DPML reports to the PM) the program manager would have considerable influence upon the selection. An interview with a PM, in that position, was unable to confirm nor deny that assumption, as the respondent stated, "I prefer to allow the normal process to function and 'fine tune' as required." This somewhat nebulous treatment is characteristic of the entire issue of PM influence. Despite their research, the authors feel unable, on the basis of insufficient information and personal experience, to propose a case for either increased or decreased PM influence upon the selection process.

Cataloging the current selection procedures has provided a baseline for further research on a broader issue - Is it appropriate for the AFALC, rather than AFSC (the acquisition command) to staff key members of

the systems program office and provide, in most cases, the line of command authority? The evolution of the AFALC (as covered in Chapter II) was designed to place increased emphasis upon logistical concerns in the acquisition process, and, by "marrying", AFLC (the supporting command) and AFSC provide the sources (DPMLs and ILSO staff) of support expertise. The command structure which evolved kept the DPML within the AFALC organizational heirarchy (originally a division of AFLC) while performing duties within the SPO. This unique organizational arrangement (matrix) has resulted in both positive and negative feedback from field DPMLs and PMs. Whether the evolution of this structure is complete or best serves the interests of the acquisition process is beyond the scope of this treatise, yet remains a challenging question which the authors feel merits further research.

Summary

Throughout these last two Chapters, the authors feel they have answered the original research questions posed. The full and open cooperation of all personnel at the AFALC and within the SPOs contacted has allowed the data base establishment, which was a priority goal; however, as in any investigative effort, the researchers feel that more questions and issues have been raised than questions definitively answered.

Optimal DPML background and selection, by whom, serving in what organizational context are continuing and evolving issues which must be addressed if the costly and critical area of defense acquisition is to be a viable and credible function.

APPENDIX A: Phased Tasks for ILS

Pre-Conceptual

1. Initiate Tailoring of specifications, standards, etc.
2. Prepare Business Strategy Panel (BSP) input and attend BSP
3. Develop and integrate supportability strategy with program strategy, plans, and Determination & Findings document
4. Provide supportability considerations for PR's and RFP's
5. Establish logistics source selection team; support source selection
6. Review and comment on SON
7. Review and coordinate on SON

Concept Exploration

1. Work with user to develop maintenance concept
2. Initiate tailoring of specifications, standards, etc.
3. Request AFALC assistance
4. Review and comment on Primary System Operational Capability (PSOC) and maintenance plan
5. Develop logistics input to acquisition strategy
6. Identify deliverable data items
7. Input to BSP and attend BSP
8. Initiate ILSP as Section 9 of PMP. Include initial support objectives and concerns.
9. Identify logistics objectives
10. Develop ILS requirements for RFP
11. Attend solicitation review panel
12. Develop logistics factors/standards for source selection
13. Support source selection and pre-award survey
14. Support/conduct guidance conference

15. Initiate logistics annex to MOA's
16. Support Depot maintenance planning
17. Participate in developing lessons learned application plan
18. Initiate in-house logistics analysis studies
19. Prepare O&S costs
20. Approve reliability and maintainability in contractor D&V systems specs
21. Advocate proposed logistics engineering design
22. Establish supportability assessment team
23. Evaluate proposed system design for logistics
24. Review input to System Concept Paper (SCP)
25. Review and comment on maintenance concept
26. Review and comment on SOC
27. Review and provide input to TEMP

Demonstration & Validation

1. Co-locate TOMA with DPML (usually)
2. May review and comment on PMD
3. Initiate tailoring of specifications, standards, etc.
4. Review PMD and PAD for test issues
5. Develop and integrate logistics strategy with program business strategy
6. Input to and attend BSP
7. Identify deliverable items
8. Update ILSP and networks
9. Participate in initial crewing
10. Initiate developing of provisioning strategy
11. Provide logistics requirements for RFP
12. Attend solicitation review panel

13. Develop and provide logistics source selection standards
14. Develop pre-award briefings
15. Obtain logistics evaluators/advisors for source selection
16. Develop pre-award survey requirements
17. Assist in pre-award briefings
18. Evaluate logistics in source selection
19. Provide logistics source selection lessons learned
20. Conduct logistics guidance meeting
21. Update logistics annex to MOA's
22. Establish review team (LSA)
23. Review/approve transportability reports
24. Participate in systems requirements review; ensure logistics requirements are addressed
25. Participate in crewing to develop CRISP
26. Provide logistics to TEMP
27. Initiate LCC and logistics analysis studies
28. May participate in TIM
29. Review and comment on systems test plan
30. Monitor R&M of prototype
31. Provide logistics input/support to system design review (SDR)
32. Establish and chair LSA review meetings
33. Ensure corrosion prevention advisory board is convened
34. Evaluate goals, thresholds, resources and costs
35. Approve operational and contract R&M requirements based on prototype performance
36. Establish supportability assessment team
37. Evaluate results of contract D&V
38. Review and comment on maintenance plan

39. Develop logistical POM, ICS/CLS requirements
40. Assist in preparing input to DCP/IPS
41. Prepare spares budget estimate for POM submission

Full Scale Development

1. Initiate tailoring of specifications, standards, etc. Participate in lessons learned work group (Contract)
2. Develop and integrate logistics strategy with Program Business Strategy
3. Input to and attend BSP; update maintenance plan OI&D; identify deliverable items
4. Update ILSP; major CRISP update; provide input to plans and D&F
5. Participate in PMRT; TWG; represent AFLC in turnover working group
6. Participate in developing PMRT plan; determine PMRT milestones
7. Request preliminary IM & TRC assignment
8. Attend TWG meetings; develop logistics POM estimate for maintenance ICS/CLS
9. T.O. manager conducts requirements conference if applicable; form DMAWG
10. Obtain source selection evaluators/advisors
11. Develop logistics source selection standards; provide logistics requirements for RFP
12. Co-chair pre-award guidance conference; form MAPT
13. Establish logistics panel and evaluate logistics portion of contractor's response to RFP
14. Request O/C (DTA) decision for MAW; review and approve computer program development plan
15. Conduct logistics guidance conference; submit DMI candidate to JDMAG
16. Provide logistics annex to MOA's with ACD's
17. Update ILSP to reflect changes negotiated in source selection
18. Establish LSA review team; assist in PDR
19. Plan for O&I activation; review contract logistic analysis results

20. TOMA conducts initial to guidance conference; approve TOPP; prepare for verification plan
21. Plan for depot activation; serve as SATAF commander for logistics
22. Initiate in-house logistics analysis studies
23. Participate in PDR; chair logistics reviews; review contract logistics analysis results
24. Meet/coordinate on SERDS; assist test readiness reviews
25. Plan for ICS
26. Participate in demonstrations and organize tech support; assist test readiness reviews
27. TOMA conducts 35% IPR
28. Review tech data for support equipment
29. Develop test and evaluation strategy; participate in JRMET
30. Support FCA; review test results; obtain logistics coordination for changes
31. TOMA conduct 70% IPR; review status of turnover working group milestones (Continuing)

Production and Deployment

1. Reassess IOC data in accordance with PMD update
2. Continue lessons learned working group
3. Update ILSP
4. Review adequacy and funding of ILS elements
5. Update CRISP
6. TOMA continues to conduct IPRs as necessary
7. Evaluate product performance contract options
8. Coordinate logistics implementation of PPA's and input to component breakout
9. Participate in FCA
10. Monitor all DMA planning
11. Validate T.O. IO&D

12. Evaluate ECPs; coordinate technical logistics input
13. Assist in reliability test readiness review
14. Finalize planning for all levels of maintenance
15. Participate in PMRT planning
16. Review test results
17. Assess product performance agreements
18. Monitor all maintenance related SE, TO, FAC, SS, TNG, PRGM
19. TOMA conduct 100% IPR as required; distributes preliminary T.O.'s to verification team and ATC
20. Attend TWG meeting
21. Verify T.O. OI&D
22. Ensure CRS capability exists
23. TOMA takes delivery of and distributes formal T.O.'s
24. Review test results and take action
25. Cancel lessons learned working group
26. Review/approve logistics documentation at PMRT/LSAR delivery

APPENDIX B: Personnel Interviewed

Program Managers

<u>Rank</u>	<u>Name</u>	<u>Office Symbol</u>
1. Maj/Gen	Harbour, Elbert E.	ASD/AF
2. Maj/Gen	Thurman, William E.	ASD/B-11
3. B/Gen	Yates, Ronald W.	ASD/YP
4. Col	Bevelhymmer, Herbert L.	ASD/YA
5. Col	Butchko, Michael	ASD/TAF
6. Col	Gillogly, H.	ESD/TCG
7. Col	Jennings, Robert	ASD/TAM
8. Col	Piccirillo, Albert G.	ASD/TAS
9. Col	Sanford, Thaddeus H.	ESD/SCW
10. Lt/Col	Daughtery, Gerry R.	ASD/YZYB
11. Lt/Col	Leopold, Ray	ESD/TCS
12. Lt/Col	Maxwell, R.	ASD/RWJ
13. Lt/Col	Sovey, J.B.	ESD/TCS
14. Lt/Col	Suerken, J.F.	ASD/YYX
15. Major	Chase, J.D.	AD/YGB
16. Capt	Shelton, B.	ESD/TCJ
17. GM-14	Fowler, T.	ASD/AEID
18. GM-14	Mikolanis, A.L.	ASD/YZA
19. GM-13	Hill, L.	AD/YNM

Deputy Program Managers For Logistics

<u>Rank</u>	<u>Name</u>	<u>Office Symbol</u>
1. Col	Jarman, L.E.	ESD/AL
2. Col	Morris, D.	ASD/B-12

3. Col	Torre, R.J.	AD/AL
4. Col	Vikan, D.F.	ASD/YPL
5. Lt/Col	Abrams, F.L.	ASD/TAFL
6. Lt/Col	Dunn, D.M.	ESD/TCGL
7. Lt/Col	Parr, J.D.	AD/YNL
8. Lt/Col	Rodenroth, R.T.	ASD/TAS
9. Lt/Col	Tirone, J.M.	ASD/AFZL
10. Major	Goodwin, A.O.	ESD/TCJ
11. Major	Johnson, J.S.	ASD/YVA
12. Major	Stephens, B.	ASD/TAM1
13. Major	Wyspianski, S.	ASD/AEIL
14. GM-15	Mutzelburg, R.E.	ASD/YZA
15. GM-13	Balcomb, J.	ESD/TCS
16. GM-13	Madigan, M.J.	ASD/RWJL
17. GM-13	Smith, B.	ESD/SCW-4
18. GS-12	Aronson, J.	AD/YHL

AFALC Deputates

<u>Rank</u>	<u>Name</u>	<u>Office Symbol</u>
1. Col	Harmon, D.K.	AFALC/LW
2. Col	Smith, G.	AFALC/SD
3. GM-15	Owen, R.L.	AFALC/LW
4. GM-14	Taylor, W.	AFALC/SD

Interview Guide for AFALC Deputates

Introduction and Opening Remarks

Provide interviewee with overview of objectives: Determine current DPML Selection Criteria; Ascertain field DPML perceptions of these criteria; Establish data base for possible future research on selection criteria. Due to limited number of deputies involved, anonymity is unlikely.

1. How are needs for DPML assignments identified by AFALC?
2. How are candidates identified to fill these needs?
3. Is one person or are several persons nominated for final selection?
4. What levels of approval are necessary for final confirmation? How are these approval requests submitted? Are there any other agency coordinations required? Do some appointments require higher levels of approval?
5. Are selection criteria broken down by personal criteria and program criteria? If so, which is given precedence?
6. Are there any key items, either program or personal, which immediately disqualify a candidate from consideration? If so, what are they?
7. What broad categories are considered in selecting candidates? In what order of precedence?
8. Within the previous broad categories mentioned, what specific criteria are used for final rating of candidates?
9. Are Numerical Scores assigned? In your opinion, would you classify the rating as basically subjective or objective?
10. What do you consider to be the main obstacle(s) in the selection process?

11. How were you selected for your position? How long have you been in present position?

Interviewee Name:

Rank:

Duty Title

Organization and Office Symbol:

Phone Number:

Date of Interview:

Interviewer:

Interview Guide for DPMLs

Introduction and Opening Remarks

Provide interviewee with overview of objectives: Determine current DPML Selection Criteria; Ascertain field DPML perceptions of these criteria; Establish a data base for possible future research on selection criteria. Final research report will only deal with aggregate numbers, not individual responses. Anonymity is assured.

1. What type system(s) are you acquiring?
2. What acquisition phase was your program in when you were selected as the DPML?
3. Has your program changed phases during your tenure?
4. What is the dollar value of your program(s)?
5. How were you selected as the DPML? Did you actively seek this assignment? If so, how?
6. How did you perceive the role of the DPML prior to your selection? Has it changed since your assignment to the position?
7. Are there any areas of previous experience which you felt eased (or could have eased) the transition to your present duties?
8. If you were to select your replacement as the DPML, what criteria would you use, and how would you order them in importance?
9. Do you believe program selection criteria or personnel criteria should be of paramount importance?
10. Are you aware of the current selection criteria used by AFALC in selecting DPMLs?

(Provide interviewee a list of the collected criteria from AFALC Deputates)

11. On the attached scale, rate the significance of each of the criterion.
12. On the attached scale, rank order the criteria from most important to least important.
13. Are there any changes to the current selection criteria for DPMLs which you would make if you were in a position to do so?

Name:

Grade:

Duty Title:

Organization:

Office Symbol/Telephone:

Date:

Interviewer:

Interview Guide for PMs

Introduction and Opening Remarks

Provide interviewee with overview of objectives: Determine current DPML Selection Criteria; Ascertain field DPML and PM perceptions of these criteria; Establish a data base for possible future research on selection criteria. Final Research Report will only deal with aggregate numbers, not individual responses. Anonymity is assured.

1. What type system(s) are you acquiring?
2. In what acquisition phase was your program at the time you were selected as the PM?
3. Has your program changed phases during your tenure?
4. Were you the program manager when your current DPML was assigned?
5. Are you familiar with the DPML selection process and criteria?
6. Did you (or your predecessor) have an input to the DPML selection?

If so, in what manner and to what degree

7. If you were to personally select the DPML for your program, what traits would you look for in the individual?

(Provide the interviewee the DPML selection criteria collected from the AFALC deputies)

8. On the provided scale, rank your perception of the propriety of each of the selection criterion.
9. On the provided scale, rank order your perception of the criteria from most to least important.
10. Are there any changes to the current DPML selection criteria which you would prefer to have implemented?

11. What item, if any, do you consider to be the greatest barrier in the DPML selection and assignment process?

Name:

Grade:

Duty Title:

Organization:

Office Symbol/Telephone:

Date:

Interviewer:

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VITA

Captain Timothy G. Loftis was born on [REDACTED]
[REDACTED] He graduated from high school in [REDACTED] in 1972 and
attended the University of [REDACTED] from which he received the degree of
Bachelor of Science in Transportation Management in May 1976. Upon
graduation, he received a commission in the USAF through the ROTC
program. He served as a Cost Analysis Officer for the Comptroller of Air
Force Systems Command Aeronautical Systems Division, Wright-Patterson
AFB, Ohio, and Armament Division, Eglin AFB, Florida, until August 1982.
He then served as a Financial Management Inspector on the Air Force
Systems Command Inspector General staff, Eglin AFB, Florida, until
entering the School of Systems and Logistics, Air Force Institute of
Technology, in June 1984.

[REDACTED]

VITA

Lt Col Gregory W. Sutton was born on [REDACTED]

He graduated from Port Clinton High School in 1965 and attended Miami University (Ohio) from which he received a Bachelor of Arts in Business Administration in April 1969. He was commissioned upon graduation through the ROTC program, and was assigned to Webb AFB, Texas to complete undergraduate pilot training (UPT). He received his wings in May 1970 and was assigned as a UPT instructor pilot at Craig AFB, Alabama. He was selected as a pilot training instructor in 1973, and was assigned to Randolph AFB, Texas. In 1975, he was assigned to the Alaskan Air Command where he served as a senior director at Murphy Dome AFS, and as the operations officer at Cape Lisburne AFS. In 1977, he completed combat crew training in the FB-111A, and was assigned as an aircraft commander at Pease AFB, New Hampshire. In 1980, he was assigned as an instructor pilot in the combat crew training squadron at Plattsburgh AFB, New York. At Plattsburgh AFB, he served as an FB-111A instructor pilot, flight commander, and the chief of FB-111A central flight instructor course until entering the School of Systems and Logistics, Air Force Institute of Technology, in May 1984. He has completed Air Force Squadron Officer school, the Air Command and Staff Course, and holds a Master of Public Administration from Golden Gate University awarded in December 1979.

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The research report outlines the current selection criteria and process for selecting a deputy program manager for logistics (DPML) by the Air Force Acquisition Logistics Center (AFALC), and provides perceptions of the process and criteria by program managers (PMs) and (DPMLs). The AFALC is charged, by regulation, with staffing the DPML position (by definition, a major program) and integrated logistics support offices (ILSOs) within all product divisions program offices of the Air Force Systems Command. Inputs to the process and emphasis upon specific criteria are received from numerous sources (articulated within the thesis) and heirarchical levels.

The analysis of the process and criteria was accomplished by interviewing the AFALC Deputies and their staff, who are the primary assignment policy decision makers. Perceptual data of field personnel (PMs and DPMLs) was gathered by use of a non-probabilistic interview sample of PMs and DPMLs within the Aeronautical Systems Division, Electronic Systems Division, and the Armament Division of the Air Force Systems Command.

The research confirmed that a clearly identifiable, consistent selection process and criteria were used by the AFALC; however, the weighting given specific criterion was tailored to each specific program. Perceptions of field personnel confirmed the relevance of the current criteria; however, there appeared to be a lack of understanding among PMs and DPMLs of the AFALC process. The report raised issues for further research and action regarding a special acquisition experience identifier, and possible re-delegation of DPML selection process and criteria which, along with field perceptions, provides insights for further study and research.