

# **MASTER OF SCIENCE IN MANAGEMENT**

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## **THE FISCAL YEAR 1999 OUTLAY ESTIMATE DIFFERENCE BETWEEN THE DEPARTMENT OF DEFENSE AND THE CONGRESSIONAL BUDGET OFFICE**

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This thesis focuses on the emergence and resolution of the outlay estimation problem associated with the development and enactment of the fiscal year (FY) 1999 Department of Defense (DoD) budget. During the budget development process, the Congressional Budget Office (CBO) estimated DoD FY99 outlays to be \$3.7 billion higher than estimates submitted by DoD, which would have caused DoD spending to exceed FY99 defense spending targets established in the 1997 Balanced Budget Act (BBA). Four causal factors produced the \$3.7 billion outlay estimate problem. These factors include DoD's Working Capital Fund (WCF) policies, the overall outlay estimating process, the analytical techniques used to estimate outlays, and the inherent variability within DoD's many programs. The Congress solved the problem by bringing together the key players concerned, finding and developing policy consensus that generated outlay savings within the budget, and by implementing those policies through legislative provisions and member assurances. Policy areas and outlay savings generated included \$1.3 billion in WCFs; \$700 million in administrative initiatives within two classified Air Force accounts; \$737 million in additional receipts from DoD asset sales; and \$190 million in savings based on the transfer of Operations and Maintenance funds to the Pentagon Renovation Transfer Fund.

**DoD KEY TECHNOLOGY AREA:** Other (Congressional Budget Process)

**KEYWORDS:** Outlays, Budgets, Congressional, DoD, CBO

## **AN ANALYSIS OF ALTERNATIVE DISPUTE RESOLUTION (ADR) AS IT APPLIES TO CONTRACT DISPUTE SETTLEMENT AND ITS USE BY THE DEFENSE INDUSTRY**

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The objective of this research is to assess the extent to which defense contractors employ the use of Alternative Dispute Resolution (ADR) in their contract dispute settlement processes. A questionnaire was utilized to gather information from thirty defense contractors. The thesis provides a legislative background for ADR, and briefly discusses various techniques of the ADR process. Additionally, data collected from industry are presented and discussed. The study identified mediation and negotiation as the technique favored by commercial companies. Furthermore, this study concludes that Government agencies do not reap the benefits of ADR to the extent that commercial companies do. The use of ADR has taken hold, and its use is likely to increase. However, barriers exist that serve to limit its use by Government agencies. These barriers include education about various ADR techniques and the perception by the defense industry that Government agencies are unwilling to enter into ADR.

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**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Alternative Dispute Resolution, ADR, Defense Industry, Disputes, Mediation, Advance Agreements

**THE EFFECT OF IMPROVING QUALITY OF LIFE AND RETENTION BY ELIMINATING  
PUBLIC/PRIVATE VENTURE OUT-OF-POCKET HOUSING EXPENSES: THE  
DIFFERENTIAL LEASE PAYMENT PROGRAM AT NAVAL STATION EVERETT, WA**

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This thesis examines the potential impact of a pilot program designed to eliminate out-of-pocket housing expenses for military families living in public/private venture housing on their quality of life and prospective reenlistment decisions. This program is called the Differential Lease Payment (DLP) program. The study focused on residents of the Country Manor public/private venture housing project at Naval Station Everett, WA. A questionnaire was administered to 71 military members and spouses from the 183 military families living at Country Manor, and 25 semi-structured interviews were conducted from 71-person sample. The study revealed that with a .01 level of confidence, residents believe that eliminating their out-of-pocket housing expenses will improve their quality of life and will positively influence their reenlistment decision. The study also found that with a .01 level of confidence, eliminating out-of-pocket housing expenses is less important than improved retirement benefits in influencing their reenlistment decision. The study suggests that senior naval leaders should attempt to implement the DLP program as soon as possible. In addition, senior naval leaders should attempt to influence Congress to improve the retirement benefits for all military personnel, in order to achieve the maximum positive influence on service members' retention.

**DoD KEY TECHNOLOGY AREA:** Other (Strategic Planning, Retention, Quality of Life)

**KEYWORDS:** Public/Private Venture

**CENTRALIZATION OF CONTRACTING ACTIVITIES: PRIMARY FACTORS TO  
CONSIDER TO ACHIEVE THE MOST EFFICIENT AND EFFECTIVE  
REGIONAL CONTRACTING ORGANIZATION**

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The purpose of this thesis is to examine the critical factors that must be considered in any centralization of contracting activities in a geographical region, and understanding these factors, how can they be incorporated using sound business practices to form an efficient and effective centralized contracting activity for the customer.

The data for this research were gathered through a literature review on the INTERNET, and various libraries. Interviews were conducted with personnel in the San Diego region, as well as electronic surveys of various commands in the San Diego, Puget Sound, Norfolk, and Jacksonville regions.

This thesis concludes that consolidation of contracting activities must consider critical factors including contracting workload, change management/perceptual issues, stakeholder issues, funding, technology, head of contracting activity authority issues, and core versus non-core mission support. The final conclusion is that centralization of contracting activities can be implemented, however, it must be done in an environment

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that seeks to add value to the contracting process, is process driven in finding the right regional procurement structure, and focuses upon the customer.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition)

**KEYWORDS:** Acquisition, Contracting, Consolidation, Centralization, Regionalization, Acquisition Reform

### **CONTRACT CLAIMS EXPERIENCE AT THE NAVAL AIR SYSTEMS COMMAND**

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The primary purpose of this thesis is to analyze the database of contract claims and Requests for Equitable Adjustment (REAs) experienced at the Naval Air Systems Command (NAVAIR) between January 1997 and December 1998 as a means to identify areas of potential improvement in management practices which could result in reduced numbers of claims being submitted. Areas of focus are on claims from NAVAIR Headquarters in Patuxent River, MD and from NAVAIR's three warfare centers. This thesis segregates claims into seven categories according to the underlying basis of the claims and identifies patterns which are then used to help focus attention on problem areas. Finally, this thesis offers recommendations to NAVAIR officials of areas on which to focus and actions to take to reduce the number of claims submitted.

**DoD KEY TECHNOLOGY AREA:** Other (Contracting)

**KEYWORDS:** Contract Claims, Contracting, NAVAIR, Disputes, Requests for Equitable Adjustment

### **RECOMMENDATIONS FOR ENHANCING THE MOTIVATION OF PETTY OFFICERS IN THE TURKISH AND THE UNITED STATES NAVIES**

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**Master of Science in Management-June 1999**

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The missions and roles of the Turkish Navy have changed because of changing world conditions over the last fifteen years. The frequency and length of deployments and missions have increased, while pay level has decreased. The new frigates with complex technology introduced into the fleet recently have required a more knowledgeable and skillful work force, including petty officers. As petty officers have become more competent and knowledgeable, their needs for recognition, choice, and meaningfulness, as well as their needs for rewards and benefits, also have increased. As a result of all these changes, Turkish petty officers seemed to have become less motivated. The U.S. Navy has faced similar difficulties over the last twenty years. A 1993 military personnel research study in the U.S. revealed that keeping capable and energetic personnel in the service is going to become even more difficult in the future, as petty officers expect their work and quality of life to improve and as civilian employment alternatives become more appealing. This thesis examines the factors, extrinsic and intrinsic, that motivate and demotivate petty officers in the Turkish and U.S. Navies. The study utilizes a survey questionnaire to determine common areas of concern and recommends, accordingly, ways to increase or maintain the motivation of petty officers in the Turkish and U.S. Navies.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Motivation, Job Satisfaction, Leadership, Petty Officers

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### **MILITARY ACQUISITIONS IN EL SALVADOR AND IN THE UNITED STATES OF AMERICA: A COMPARATIVE AND CRITICAL ANALYSIS**

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The Salvadoran Armed Forces have to face a new environment in which resources are severely constrained. To accomplish its mission effectively and efficiently, the Salvadoran Armed Forces must use a more scientific approach to financial management. The United States Department of Defense (DoD) model for acquisitions uses an approach developed using systems engineering and, as a result, most military acquisitions satisfy an effective need. El Salvador Ministry of Defense has substantial problems in the area of acquisitions. This research can help the Salvadoran Armed Forces to develop a more effective acquisition system by providing a frame of reference that can be applied to analyze problems and to define potential solutions.

This study identifies the El Salvador Ministry of Defense need for military acquisitions and describes the current process. This research also describes the acquisition process in the U.S. DoD, and compares the acquisition processes in both countries. Using deductive research techniques and comparative analysis, this study reveals that the military acquisition process in El Salvador can be improved by using the U.S. DoD model as a benchmark. Finally, this study concludes on the applicability and limitations of applying the U.S. model to re-engineer the acquisition process in El Salvador.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition Management)

**KEYWORDS:** Weapon Acquisitions, Defense Procurement, Acquisition Process

### **IMPROVING NAVAL AVIATION MAINTENANCE QUALITY MANAGEMENT PROCESSES AT THE ORGANIZATIONAL MAINTENANCE LEVEL: THE INFLUENCES OF THE INTERNATIONAL STANDARDS ORGANIZATION (ISO) 9000 QUALITY MANAGEMENT SYSTEM ON THE NAVAL AVIATION MAINTENANCE PROGRAM (NAMP)**

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This thesis examines the similarities and differences between the Naval Aviation Maintenance Program (NAMP) and International Standards Organization (ISO) 9000 quality management systems (QMS), discusses the difference in quality management discipline under ISO 9000 and under the NAMP, and describes what must be changed in the aviation organizational maintenance sections of the NAMP to make them consistent with the ISO 9000 QMS. The NAMP is Naval aviation's overall guiding document that outlines command, administrative, and management relationships, and assigns maintenance policy and procedure responsibilities to the respective individuals for management. ISO 9000 is a series of international standards establishing requirements and guidelines for maintaining an organization's quality system. An overview is provided of quality management (QM) procedures, policies, tools, and audits; the NAMP Quality Management System (QMS); the ISO 9000 QMS; and QMS implementation procedures. Next, process maps are described for QM documentation, policies, and procedures under both the NAMP and ISO 9000. Each is compared and contrasted. Then, QM training under the NAMP and ISO 9000 is described, and advantages and disadvantages of each are listed. ISO 9000 QMS implementation issues and

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performance metrics are discussed. Finally, recommended changes to NAMP QM procedures, processes, and policies are provided.

**DoD KEY TECHNOLOGY AREA:** Other (Materiel Logistics Support Management)

**KEYWORDS:** Quality Management Systems, Change Implementation, DoD Reform Initiatives, ISO 9000 Certification Process

### **A FORMATIVE EVALUATION OF THE LEADERSHIP EDUCATION AND DEVELOPMENT (LEAD) PROGRAM CURRICULUM**

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In 1996 the Naval Postgraduate School (NPS) in Monterey, CA designed a graduate education program for Navy and Marine Corps officers who are detailed to the U.S. Naval Academy (USNA). The students complete a Master of Science degree in Leadership and Human Resources Development, then assume duties as a Company Officer. This study is a formative evaluation of the Leadership Education and Development (LEAD) program. Its purpose is to determine the strengths and weaknesses of the program, whether the graduates perceive that their leadership skills changed as a result of the program, and provide recommendations for improvements to the program. A literature review includes a discussion of educational program evaluation and qualitative measurement procedures. Interviews were conducted with all members of the first graduating LEAD class. It was found that the graduates believe that the program was beneficial, had a positive effect on their leadership styles, and with some modification, will be a useful tool in educating Company Officers. It is recommended that coordination and communication between and among NPS and USNA staffs be increased to reduce redundancy within the curriculum, take full advantage of LEAD's proximity to USNA, and obtain a common understanding of LEAD program effectiveness criteria.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Leadership, Program Evaluation, Formative Evaluation, United States Naval Academy

### **THE SURVIVOR BENEFIT PLAN (SBP): ASSESSING RETIREES' COST SHARE**

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The Survivor Benefit Plan (SBP) was created to enable a surviving beneficiary of a retired military service member to continue to receive a portion of the retiree's retirement benefits upon the death of the retiree. The cost of the plan was to be paid by both the retiree and the government, with the retiree paying 60 percent of the cost and the government paying 40 percent, for an indefinite period of time. In 1998 Congress passed legislation (P.L. 105-261) that terminated premium payments once the retiree had paid premiums for 30 years and attained 70 years of age. This thesis seeks to determine whether 30 years is an equitable amount of time for retirees to pay SBP premiums in order to achieve a balance between future benefits and future costs; and, if it is not, to determine the correct number of years to achieve this balance. Spreadsheets were developed to determine present values of benefits payable to beneficiaries and present values of payments made by retirees. The point in time in which the present value of benefits equaled the present value of costs determined the number of years that retirees should pay into the plan to maintain their 60 percent cost share. The data indicate that the number of years required to pay into the plan for the

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paygrades E-5 through E-9 and O-4 through O-10 varies from 13 to 21 years, with the higher number of years corresponding to the higher paygrades. Reducing paid up coverage from 30 to 21 years enables retirees to pay costs that more accurately reflect their future benefits.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Survivor Benefit Plan, Retired Officers Association, Paid-Up Coverage

### **STRATEGY-TO-TASK RESOURCE MANAGEMENT: APPLICATION OF HIERARCHIES IN DEFENSE RESOURCE PLANNING**

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Current defense planning methods do not ensure a direct connection between national security objectives and military tasks. The Strategy-to-Task method provides a framework for solving this deficiency by establishing a hierarchy, starting from national objectives, through military objectives and missions to military tasks. Below these tasks, performance standards can be used for estimating the utility of a given task. This hierarchical approach helps decision-makers understand these important linkages. It could also serve as a framework for prioritizing the different tasks and contribute to better resource allocation, by analyzing different alternatives in a multi-attribute space. There are two decision-supporting methods for setting up priorities within this hierarchy of multi-attribute objectives. The first one, Multi-Attribute Utility Function Analysis, is a useful method for cases when performance standards can easily be established. This method could be used under both certainty and uncertainty and can address dependence and independence among the attributes or their utilities. The second method, the Analytic Hierarchy Process, could be used in cases when performance standards are difficult to establish as is typically the case in the higher levels of the hierarchy. The hierarchical approach and the two methods are illustrated through the case of Hungary's participation in NATO peace-operations.

**DoD KEY TECHNOLOGY AREA:** Other (Defense Planning)

**KEYWORDS:** Defense Planning, Strategy-to-Task, Analytic Hierarchy Approach, Multiattribute Utility Function Analysis

### **NATO: FROM CREATION TO GOLDEN ANNIVERSARY INSIGHTS FOR THE CZECH REPUBLIC**

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This thesis examines developments in NATO from 1949 to 1999 and discusses NATO's future role in the European security system. The thesis further discusses how particular groups of the Czech society perceive NATO.

Since 1949 NATO has developed into the most powerful and the most successful collective defense organization in the world. With the collapse of the communism, NATO had to adapt to the new situation to justify its existence. Since 1990 NATO has significantly changed and is quite different from the 1990 NATO. Today's NATO is actively conducting out-of-area missions, cooperating with former adversaries through the EAPC and the PfP-program, and supporting democracy throughout Europe; however, NATO is also looking for its future form, and for its place and role in the system of European security. The most

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likely form will be a collective defense organization within the framework of cooperative security system. There was only a lukewarm support to accession of the Czech Republic to NATO within Czech public. This was caused by the Czech historical experience and by the approach of Czechoslovak and later Czech governments to the national security matters since 1989, which resulted in insufficient public discussion on NATO issue in the 1997-99 period.

**DoD KEY TECHNOLOGY AREA:** Other (Public Affairs)

**KEYWORDS:** NATO, Enlargement, Czech Republic

### **FUNCTIONAL COMPARISON OF THE NAVAL POSTGRADUATE SCHOOL AND NAVAL SUPPORT ACTIVITY, MONTEREY BAY**

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In this era of scarce resources and intensified interest in reducing governmental spending, organizations such as Naval Postgraduate School (NPS) and Naval Support Activity, Monterey Bay (NSAMB) find themselves under heavy scrutiny to ensure they are managing their commands at the utmost level of efficiency. This study provides a “snapshot” of the functions, structures, costs, resources, and cost saving methods in place for these two co-existing commands in FY98 as a source of information for future benchmarking studies. By examining command flow diagrams, budgetary documents, and manpower listings, and conducting interviews with NPS and NSAMB personnel employed in these areas, the data acquired for this thesis have been molded into a document that provides a baseline for past and future year comparisons. As a result of data comparison, a co-dependent, vertical relationship between NPS and NSAMB was discovered. Functional redundancies in areas such as administration, resource management, and computer support were also identified.

**DoD KEY TECHNOLOGY AREA:** Other (Shore Installation Management, Financial Management)

**KEYWORDS:** Benchmarking, Cost Saving Measures

### **AN EVALUATION OF THE ACQUISITION STREAMLINING METHODS AT THE FLEET AND INDUSTRIAL SUPPLY CENTER, PEARL HARBOR, HAWAII**

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Federal contracting officials are contending with a virtual barrage of reforms, involving new legislation, new contract vehicles, and new business practices – thus changing how agencies are to operate with respect to acquisition streamlining. This thesis evaluates the effectiveness of the Fleet and Industrial Supply Center (FISC) Pearl Harbor’s implementation of acquisition streamlining initiatives and recommends viable methods of streamlining the acquisition process at FISC Pearl Harbor and other Naval Supply Systems Command-governed FISC activities.

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The primary methods of streamlining the acquisition process evaluated at FISC Pearl Harbor include both the internal and external factors to the organization. Internal factors include the organizational design within FISC Pearl Harbor and its relationship to the customers of, and the principal contracting techniques and processes employed by the Regional Contracting Department in search of acquisition streamlining. The external environment involves the proposed partnership with the Pacific Naval Engineering Command in support of regionalization on the Hawaiian Islands.

**DoD KEY TECHNOLOGY AREA:** Other (Contracting)

**KEYWORDS:** Fleet and Industrial Supply Center, FISC, Acquisition Streamlining, Partnering, Contracting Organizations, Procurement Organizations, Contracting

### ASSESSING PERFORMANCE OF A PRIMARY DEFENSE DISTRIBUTION DEPOT THROUGH BENCHMARKING

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The Defense Logistics Agency (DLA) is strongly committed to finding ways to reduce its operating costs while satisfying customer demands. DLA has realized that a significant way to reduce costs while improving efficiency and raising customer service levels is to effectively manage and control the supply chain's distribution network by focusing on the distribution depots. In DLA's ongoing efforts to adopt best business practices, distribution depots like the Defense Distribution Depot – San Joaquin (DDJC) may lose the ability to provide their intended mission - customer satisfaction. The purpose of this thesis is threefold: (1) to explore benchmarking as a critical analysis tool of the performance metrics for a major Defense Distribution Depot's warehousing operations; (2) to identify superior performing commercial organizations similar to DDJC; and (3) to analyze gaps in processes, practices, people, and costs which drive their performance. The gaps are discussed and quantified through modeling techniques. The thesis concludes with identifying key performance metrics that can then be tailored for DDJC for improving performance.

**DoD KEY TECHNOLOGY AREA:** Other (Logistics)

**KEYWORDS:** Benchmarking, Defense Distribution Depots, DLA, Metrics, Productivity

### ESTABLISHING EVALUATION CRITERIA FOR NAVY REGIONALIZATION

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In response to a perceived decline in the global threat and reduced defense budgets, the Navy has sought to reduce costs and increase efficiency through the concept of regionalization, i.e., the consolidation of support functions for all activities in a specific geographic area. The regionalization concept is currently in various stages of implementation throughout the world, and uses as its basis the concept of "best business practices." A comprehensive means to evaluate the effectiveness of regionalization has not been established; therefore, there is no accepted basis upon which to judge the financial benefits of regionalization, the associated financial and readiness costs, or the best approach to implementation. This thesis synthesizes best business practices and ongoing regionalization efforts at the Pacific Northwest, Pacific Southwest, and Hawaii regions and establishes criteria for evaluation of regionalization.

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**DoD KEY TECHNOLOGY AREA:** Other (Installation Management, Financial Management)

**KEYWORDS:** Regionalization, Infrastructure, Efficiency, Business Practices, Support

### **ENHANCING READINESS OF THE UNMANNED AERIAL VEHICLE (UAV) SYSTEM VIA USE OF SIMULATION MODELING AND CONTRACT INCENTIVES**

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The two most important reasons for the inefficiency in the Unmanned Aerial Vehicle (UAV) test system of the Turkish Army Command are the failure to address life-cycle cost (LCC) considerations during financial resource allocations and the absence of contract reliability incentives. These problems are not uncommon to newly developed major weapon systems. The objective of this thesis is to develop a life-cycle cost based decision support tool and a performance incentive fee contracting model to improve the operational availability of the UAV system.

This thesis integrates the spare parts, and repair and replacement cost considerations into life-cycle cost calculation of the UAV system and establishes a methodology to determine these costs by exploring the relationship among spare level, service and failure rate in terms of readiness. An increase in the stock level does not improve the UAV system's efficiency in the long run. This thesis also provides a tool for the computation of a performance incentive fee by using modeling and simulation. This study presents a computer-aided decision support tool for more efficient and effective allocation of scarce resources.

**DoD KEY TECHNOLOGY AREAS:** Air Vehicles, Modeling and Simulation, Other (Logistics Engineering, Program Management, Contracting)

**KEYWORDS:** Modeling, Simulation, Reliability, Readiness, Operational Availability, Life-Cycle Cost, Fixed-Price Incentive (FPI) Contract, Performance Incentives, Incentive Contracting, Logistics Engineering, Unmanned Aerial Vehicle (UAV)

### **A STUDY OF TURKISH OFFICERS AT THE NAVAL POSTGRADUATE SCHOOL: SOCIAL, CULTURAL, AND ADMINISTRATIVE ISSUES**

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This thesis is a study of the Turkish officers at the Naval Postgraduate School (NPS). The study examines the Turkish officer experiences before and during their postgraduate education at NPS. Focused interviews were conducted with 20 Turkish officers. All interviews were taped and then transcribed. Analysis of the transcripts revealed ten critical themes. These themes covered many topics, including problems related to the postgraduate education process beginning in Turkey and ending at NPS in the United States. The major findings drawn from the interviews included the lack of adequate information on postgraduate education prior to attending NPS, a general dissatisfaction among the Army and Navy officers with the way in which their curriculum specialties were chosen, the lack of information about credit requirements for graduation from NPS, the uncovered expenses of the married officers' dependents, and the high value that the Turkish officers place on NPS education. The thesis concludes with recommended courses of action that may help the Departments of the Turkish Army and Navy.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

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**KEYWORDS:** Turkish Officers, Personnel Selection for Naval Postgraduate School, Postgraduate Education

### **ECONOMIC INCENTIVE PROGRAMS: PERFORMANCE EVALUATION AND THE IOWA DEPARTMENT OF ECONOMIC DEVELOPMENT**

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The Iowa Department of Economic Development (IDED) oversees a broad range of economic development programs and services designed to meet the needs of individuals, companies, and communities. Evaluating economic incentive programs can help determine what works and what does not work for an individual state. The effectiveness of economic incentive programs is largely unknown. The purpose of this study is to determine how the IDED can measure the effectiveness and performance of its economic incentive programs. A performance evaluation methodology developed by Todd Calhoun was utilized to organize the economic development objectives of key IDED stakeholders into a Global Hierarchy. IDED program objectives were then linked to the Global Hierarchy to demonstrate that IDED objectives were in alignment with state objectives. The performance indices developed serve as an example of how to complete the process of breaking down objectives into specific indicators of performance.

**DoD KEY TECHNOLOGY AREA:** Other (Performance Evaluation)

**KEYWORDS:** Performance Evaluation, Economic Incentives, Iowa Department of Economic Development

### **THE EFFECTS OF REGIONALIZATION ON THE POWER AND AUTHORITY OF SHORE INSTALLATION COMMANDING OFFICERS**

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This research examines the manner in which the United States Navy's Infrastructure Cost Reduction Initiative, i.e., regionalization, has affected traditional relationships that Installation Commanding Officers have with people assigned to their bases and with other commanding officers in the same region. It includes descriptions of the pre-regionalization and post-regionalization command structures in Navy Region Southwest, the process by which regionalization was implemented, and an extensive literature review on the theory of executive power and authority.

Semi-structured interviews were conducted with seven Installation Commanding Officers and members of their chains of command in Navy Region Southwest to ascertain their perceptions of the effects of regionalization on the power and authority of an Installation Commanding Officer.

This paper draws conclusions and offers recommendations about the erosion of the traditional power and authority of Shore Installation Commanding Officers to accomplish their responsibilities, the training and selection of Shore Installation Commanding Officers, and communications challenges that exist in a regionalized environment.

**DoD KEY TECHNOLOGY AREA:** Other (Shore Installation Management)

**KEYWORDS:** Shore Installation Management, Regionalization, Power, Authority, Matrix Organization, Commanding Officer

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**EFFECTS OF NATIONAL CULTURES IN CONTRACT NEGOTIATIONS:  
A STUDY OF TURKISH AND AMERICAN CULTURES**  
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This thesis examines the impact of national cultures in international contract negotiations. The main focus, however, is negotiations between Turkish and American entities. The key cultural differences between the two societies are determined by a cultural survey amongst Turkish and American participants.

Professor Geert Hofstede's "five dimensions" model was implemented to reveal characteristics of these two cultures. The survey questions used by Hofstede were changed and adjusted, however, to fit the needs of this particular study. In the light of the survey results and comments obtained from experienced Turkish and American businessmen, this study provides an analysis of the differences between the two cultures and proposes general considerations and roadmaps to guide contract negotiators of these two cultures.

**DoD KEY TECHNOLOGY AREA:** Other (International Contract Negotiation)

**KEYWORDS:** Intercultural, Cultural Differences, Intercultural Negotiation, Power Distance, Uncertainty Avoidance, Individualism, Collectivism, Masculinity, Femininity, Confucian Dynamism, Turkish Culture, American Culture, Negotiation, Hofstede, Negotiation Tactics

**THE EFFECTS OF EXCLUSIVE TEAMING ARRANGEMENTS ON THE  
DEPARTMENT OF DEFENSE ACQUISITION PROCESS**  
**Robert R. Main-Lieutenant Commander, Supply Corps, United States Navy**  
**B.S., Mankato State University, 1984**  
**Masters of Science in Management-June 1999**  
**Advisors: CDR Jeffrey R. Cuskey, USN, Department of Systems Management**  
**David V. Lamm, Department of Systems Management**

The objective of this research is to assess the effects of the formation of exclusive teaming arrangements in industry on the Department of Defense (DoD) acquisition process. The data for this research were gathered by interviewing DoD and industry procurement officials and through written survey responses from DoD and industry. The thesis provides background of the policies and regulations that influence and control exclusive teaming arrangements. Additionally, this study examines the tension between competition and best value procurement policies and how they relate to the formation of exclusive teaming arrangements. The study identified the concerns, benefits and risks associated with exclusive teaming arrangements. Methods used for mitigation of these risks were also examined. The thesis concludes that exclusive teaming arrangements allow the defense industry to share the risks and the cost of capital associated with major defense programs. Furthermore, DoD must conduct extensive market research to ensure that competition in the Defense Industrial Base is maintained and the requirements of the end user are fulfilled.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition and Contract Management)

**KEYWORDS:** Exclusive Teaming Arrangements, Defense Industry, Competition

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## MANAGEMENT

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### **THE FLEET SUPPORT COMMUNITY: MEETING ITS MISSION IN THE 21<sup>ST</sup> CENTURY**

**Deanna M. Murdy-Lieutenant, United States Navy**

**B.S., University of Maryland, 1991**

**Master of Science in Management-June 1999**

**Advisors: Roger Evered, Department of Systems Management**

**William D. Hatch II, Department of Systems Management**

This thesis evaluates the effectiveness of the Fleet Support community's management practices in meeting the dynamic changes in the complex fleet support arena, while increasing its value to the Navy in the future. The Fleet Support community's mission statement was used as a benchmark in the evaluation process. Data on billet base management, accession policies, education, and the detailing process were evaluated against the mission statement to determine the extent to which these practices support it. The results of the study indicate that current practices provide limited support in meeting the Fleet Support community's mission statement.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Fleet Support Community, Community Management

### **DELAYED ENTRY PROGRAM (DEP) ATTRITION: A MULTIVARIATE ANALYSIS**

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**Stephen L. Mehay, Department of Systems Management**

This thesis uses binary logit models to examine the effects of personal background characteristics and local area economic conditions on an individual's likelihood to leave the Delayed Entry Program (DEP). The DEP allows individuals to contract for enlistment up to one year prior to starting basic training. Between fiscal years 1991 and 1996, over 1.1 million individuals joined the DEP for all four military branches, yet 167,134 (15 percent) never entered basic training. The Defense Manpower Data Center (DMDC) provided a data file that included all individuals who joined the DEP between October 1989 and June 1996. The DMDC raw data file was merged with county-level unemployment data provided by the Bureau of Labor Statistics. DEP attrition was modeled as a function of gender, educational level, dependent status, Armed Forces Qualification Test (AFQT) score, race, ethnicity, moral waiver status, and county-level unemployment rates. Results show that a person's likelihood of leaving the DEP is affected most strongly by gender and educational level. Women and high school seniors are more likely than men and high school graduates to leave the DEP. County-level unemployment rates have a significant, but small, negative effect on DEP attrition.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** DEP Attrition, Recruiting, Manpower Supply, and Personnel Attrition

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## MANAGEMENT

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### **STUDY OF PERFORMANCE-BASED PAYMENTS (PBP) AND DEPARTMENT OF DEFENSE (DoD) CONTRACTS**

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**Advisors: Joseph G. San Miguel, Department of Systems Management  
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The purpose of this thesis is to examine how three major defense acquisition programs (MDAPs) (C-17, Family of Medium Tactical Vehicles [FMTV], E-2C) have used performance-based payments (PBP) and to determine what the important issues are, and how this method of contract financing might be enhanced in Department of Defense (DoD) contracts. Each of the MDAPs was reviewed to provide background about the acquisition program, and their use of PBP. A series of analyses was conducted to assess the impact of using PBP versus progress payments based on costs on a contractor's cash flow. Fourteen telephone interviews were conducted with DoD and defense contractors involved with PBP. Analysis led to concluding: regulation limits the use of PBP, PBP education and training is insufficient, the PBP payment process needs to be improved, PBP appear to facilitate timely deliveries, PBP are not suited for all procurements, and there are cases when PBP are advantageous. Recommendations to enhance PBP are: developing additional training/education and materials/programs, improving the payment end of PBP, incorporating "annual reevaluation" clauses in multi-year contracts, and considering whether PBP are appropriate.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition and Contract Management)

**KEYWORDS:** Performance-Based Payments, Contract Financing, C-17, FMTV, E-2C

### **TREND ANALYSIS OF REQUIRED WORK NOT COMPLETED DURING SURFACE SHIP AVAILABILITIES**

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**Master of Science in Management-June 1999**

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The Ship Maintenance Program is designed to keep ships at the highest level of material condition practicable and to provide reasonable assurance that they will be available for operations to the fleet commanders. When the total cost of work required exceeds the level of funding for a maintenance availability, some of the work must be deferred. In this thesis the maintenance records available were examined to determine if trends exist in the type of work that is not being completed. Trends were established by comparing the required work items for ships prior to entering an availability to the records of jobs completed in the availability. Trends in certain categories, like engineering or habitability, may be factors that impact retention, environmental protection or other concerns facing the Navy. Further, the data for surface ship maintenance were assessed. This study found that data support the idea that a significant portion of work items pertaining to general categories of habitability (31%), weapons systems (23.1%) and electronics (18.1%) have been deferred for LPD availabilities between 1993 and 1998. The least deferred maintenance occurred in main propulsion (4.8%) and the electric plants (10.2%). This study was unable to identify any place where comprehensive historical data for surface ship maintenance availabilities are maintained.

**DoD KEY TECHNOLOGY AREA:** Other (Financial Management, Cost Analysis)

**KEYWORDS:** Surface Ship Maintenance, Maintenance Data and Cost Analysis, Trend Analysis

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## MANAGEMENT

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### **BENEFITS, COSTS, AND RISKS OF CONVERTING FROM MILITARY DESIGN SPECIFICATIONS TO COMMERCIAL PERFORMANCE STANDARDS AT A COMMERCIAL LABORATORY**

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**Mark Nissen, Department of Systems Management**

In February 1996, Major General George E. Friel, Commander, U.S. Army Chemical, Biological Defense Command (CBDCOM), signed the first four waivers under his reinvention authority. These waivers allowed contractor laboratories to operate under commercial performance standards in their work with small quantities of chemical agents.

Throughout the process of converting from detail specifications to performance specifications, performance parameters were measured. During the design of these performance metrics, there were no thoughts of recording the costs to each contractor laboratory while converting their plans and procedures. The business risks to the contractors were also not measured.

This thesis investigates the benefits, costs, and risks of converting from detail specifications to performance standards in an environment of reinvention. Since reinvention and conversion to performance standards are major Department of Defense (DoD) thrusts, the investigation of related benefits, costs and risks is timely. The research includes a case study of one of the National Institutes involved in the conversion process. The Institute chosen was Midwest Research Institute (MRI) in Kansas City, Missouri.

**DoD KEY TECHNOLOGY AREA:** Chemical and Biological Defense

**KEYWORDS:** Cost-Benefit Analysis, Risk Analysis, Reinvention

### **A RISK MANAGEMENT MODEL FOR THE FEDERAL ACQUISITION PROCESS**

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**Master of Science in Management-June 1999**

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**Mark E. Nissen, Department of Systems Management**

The Federal Acquisition Process is the process used by the Federal Government to purchase needed goods and services. The process consists of the presolicitation phase, solicitation-award phase, and the post-award administration phase. The Government Contracting Officer (CO) is responsible for conducting 78 key tasks within the acquisition process. Each task is laden with many potential risks, such as a risk of overrunning costs, possible delivery and schedule delays, receiving a product of poor quality, problems with the selected contractor, disputes, and protests.

This thesis investigates risk management in the acquisition process. This research explains the Federal Acquisition Process and each of the 78 tasks to be completed by the CO, and examines the concepts of risk and risk management. This research culminates in the development of a model that identifies prevalent risks in the acquisition process, lists corresponding consequences, and recommends applicable risk treatments. A questionnaire of knowledgeable, experienced contracting professionals is used to gather opinions, ideas, and practical applications of risk management in the acquisition process, and refine the model. This thesis concludes with recommendations for effective risk management in the acquisition process.

**DoD KEY TECHNOLOGY AREA:** Other (Risk Management, Risk in Procurement, Acquisition Planning)

**KEYWORDS:** Risk Management, Federal Acquisition Process

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## MANAGEMENT

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### AN ANALYSIS OF THE CHANGE IN LABOR "CURRENCY" FROM WORKYEARS TO DOLLARS AT THE NAVAL POSTGRADUATE SCHOOL, MONTEREY

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Master of Science in Management-June 1999

and

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James Fremgen, Department of Systems Management

This thesis analyzes the effects of a Naval Postgraduate School policy decision made in FY 1997 that changed the fundamental unit of labor "currency" or budgetary controls from work years to dollars in three components at the school: Systems Management, the Dudley Knox Library, and the Computer Center. How this change in currency influences the dynamics of the School's labor allocation model, labor execution, and other related issues, is the focus of this study.

Interviews with the participants, a study of the labor allocation model, and analysis of labor execution data on the three departments were conducted. The conclusions drawn from this data show that perceptions varied greatly about the goals and implementation of the policy change among the participants. This affected perceptions of success and failure of the policy change among the participants. In addition, NPS relies on a labor allocation model that varies substantially among these departments. The financial profile and workforce composition (e.g., faculty versus staff) delineates characteristic differences between staff departments such as the Dudley Knox Library and Computer Center, and an academic department, such as the Department of Systems Management. This had a significant impact on the outcome of this policy change.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Unit of Labor, Budgetary Controls, Policy Change, Workforce Composition, Labor Allocation Model

### ECONOMIC ASPECTS OF AIRPORT SECURITY MEASURES

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Second Reader: William R. Gates, Department of Systems Management

Airport security measures use very expensive equipment and may keep passengers in line for several minutes. The time passengers spend in those lines can add up and must be understood as time opportunity cost. In the 1970s, several airport security measures were adopted to help stop aircraft hijackings. In 1978, William M. Landes wrote the paper, "An Economic Study of the U.S. Aircraft Hijacking, 1961-1976," in which he analyzed the expenditures associated with airport security measures. He concluded that the costs of the adopted measures were very high. While Landes concentrated on the monetary costs of airport security, this thesis concentrates on estimating the opportunity costs of airport security measures for passengers their losses in terms of their time value. This thesis estimates that the hijacking-preventing impact of airport screening measures is insignificant, but the opportunity costs these measures impose on airline passengers are significant and greatly exceed the benefits produced.

**DoD KEY TECHNOLOGY AREA:** Other (Economics)

**KEYWORDS:** Airport Security, Aircraft Hijackings, Aircraft Bombings, Opportunity Cost

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## MANAGEMENT

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### **ALLOCATING OVERHEAD COSTS IN A NAVY WORKING CAPITAL FUND ENVIRONMENT: AN ANALYSIS AND COMPARISON OF CURRENT NAVY POLICY AND PRIVATE SECTOR PRACTICE**

**Steven H. Schulte-Commander, United States Navy  
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Master of Science in Management-June 1999**

**Advisors: Kenneth J. Euske, Department of Systems Management  
John E. Muty, Department of Systems Management**

This thesis was developed in response to Naval Air Warfare Aircraft Division (NAWCAD) management's desire to explore alternative overhead allocation practices in order to better understand their organization's cost relationships and more equitably charge their customers. The Defense Reform Initiative challenges Department of Defense organizations to adopt those business practices that American industry has successfully used to become leaner and more flexible. The objective of this thesis was to evaluate the overhead allocation practices of five private sector organizations for the potential improvement of overhead allocation practices in Navy Working Capital Fund activities. Interviews with private sector managers were used to develop a process schematic that represents the common overhead allocation practices in the private sector organizations. The process schematic was then used to compare and contrast the overhead allocation practices in the private sector with the allocation practices currently used in NWCF activities. Finally, the allocation schematic was used to describe an overhead allocation method for NAWCAD based on private sector practice.

This study found that a proposal by NAWCAD managers to reform their overhead allocation method should result in more equitable customer billing. Potential exists to improve Navy allocation practices by moving even closer to private sector practice.

**DoD KEY TECHNOLOGY AREA:** Other (Financial Management)

**KEYWORDS:** Navy Working Capital Fund, RDT&E Laboratories, Overhead Allocation

### **RE-ALIGNING GOVERNMENT BUREAUCRACY TO FIT THE DEMOCRATIC ENVIRONMENT OF UKRAINE**

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Master of Science in Management-June 1999**

**Advisors: Erik Jansen, Department of Systems Management  
Roger Evered, Department of Systems Management**

This research demonstrates the need for organizational re-alignment of bureaucratic organizations to effectively function in the new democratic environment of Ukraine. Contingency theory is used to explore how major problems related to organizational efficiency have arisen from a "misfit" between the traditional bureaucratic design and the new environment and tasks faced by the Ministry of Foreign Affairs of Ukraine. The Ministry, which has grown in size from its Soviet predecessor, has maintained Soviet perceptions of managerial style and ways of conducting business. The current Ministry's traditional design has retained Soviet elements that are not congruent with its new more complex and uncertain environment.

**DoD KEY TECHNOLOGY AREA:** Other (Organizational Effectiveness)

**KEYWORDS:** Organizational Design, Contingency Theory, Organizational Consultant, Contingency Factors, Configuration, Properties, Fit Criteria

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## MANAGEMENT

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### **ACTIVITY-BASED COST AND REVENUE MODEL FOR RDT&E RATED SERVICE ACCOUNT LABORATORIES AT NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION (NAWCAD)**

**Robert J. Stailey-Lieutenant Commander, United States Navy**

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**Master of Science in Management-June 1999**

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**CDR Theodore A. Hleba, USN, Department of Systems Management**

This thesis adapted an Activity-Based Costing (ABC) model for the Research, Development, Test and Evaluation (RDT&E) Rated Service Account (RSA) laboratories at the Naval Air Warfare Center Aircraft Division (NAWCAD). The recent efforts to improve overall cost efficiency of Department of Defense (DoD) RDT&E laboratories has been limited by the lack of credible and comparable cost data. ABC systems have been recognized as a way to better identify what activities are performed to produce a product or service and the resource costs they consume. The CAM-I ABC model was adapted with a nine-step methodology that is user friendly and effective. The adapted ABC model was applied to a RDT&E laboratory at NAWCAD, using survey data, to demonstrate how laboratory personnel could identify their laboratory's activities and estimate their resource costs. The activity cost model provided with information for laboratory managers resource management decisions, a tool for more accurate pricing of customers' products through stabilized rates, and the cost element needed to measure laboratory performance and benchmark laboratory activities.

**DoD KEY TECHNOLOGY AREA:** Other (Cost and Revenue Systems)

**KEYWORDS:** RDT&E Laboratories, Activity-Based Costing, Cost and Revenue, Logistics, Financial Management

### **IMPLEMENTATION OF ORGANIZATIONAL CHANGE AT NAS BRUNSWICK: SMART BASE INITIATIVES**

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**B.S., Maine Maritime Academy, 1992**

**Master of Science in Management-June 1999**

**Advisors: Susan P. Hocevar, Department of Systems Management**

**Cary A. Simon, Department of Systems Management**

This thesis examines the implementation process of three different Smart Base initiatives at Naval Air Station Brunswick, Maine. The purpose of the initiatives is to allow bases to operate more effectively (by allowing base personnel to concentrate more attention on operational responsibilities instead of administrative burdens) and more efficiently (to reduce the amount of resources needed to operate shore installations). This thesis found that successful implementation of Smart Base initiatives depended on the following: strong support, involvement, and resource attainment by the Commanding Officer; thorough understanding of the existing process; a detailed implementation plan (defining tasks and responsibilities for all personnel involved in the change effort); close working relationships with key stakeholders; and marketing of change efforts to achieve buy-in. It appears to be especially difficult to successfully implement change when the new process is not very compatible with existing practices, and any of the critical factors identified above are not present.

**DoD KEY TECHNOLOGY AREA:** Other (Organizational Change)

**KEYWORDS:** Organizational Change, Smart Base

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## MANAGEMENT

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### **THE EFFECTS OF NATO ENLARGEMENT ON BUDAPEST'S POLICIES REGARDING ETHNIC HUNGARIAN MINORITIES**

**Laszlo Tempfli-Lieutenant Colonel, Hungarian Army**

**M.S., Leningrad Engineer-Economist Institute, 1980**

**M.S., Budapest University of Economic Science, 1994**

**Master of Science in Management-June 1999**

**Advisor: David Yost, Department of National Security Affairs**

**Second Reader: Tjarck Roessler, Department of National Security Affairs**

This thesis analyses the effects of NATO enlargement on Hungary's policies concerning the ethnic Hungarian minorities in Slovakia and Romania. It argues that the first post-Cold War round of NATO enlargement had a positive effect in Central Europe by exporting stability instead of importing instability into the Euro-Atlantic region.

The NATO enlargement process was based on criteria which had to be fulfilled by the candidates. The inclusion of the frontrunner states – the Czech Republic, Hungary and Poland – in the first round was a clear message for these states and for those excluded from the first round that the requirements in the political, economic and military fields had to be met. The invitation to join the Alliance is therefore in one sense a reward for the success of the candidates' transformation. For Slovakia and Romania, the host countries for two biggest ethnic Hungarian minority communities, the NATO enlargement process implied significant consequences. Hungary's increased political authority created favorable conditions for Budapest to support the legitimate rights of ethnic Hungarian minority communities in the neighboring countries. Bratislava and Bucharest concluded that NATO enlargement requirements would necessitate respect for "European" norms, particularly regarding the rights of national minorities.

**DoD KEY TECHNOLOGY AREA:** Other (National Security, Foreign Policy)

**KEYWORDS:** Policy, Minorities

### **A SYSTEM DYNAMICS-BASED MULTI USER NETWORK GAME**

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**Keebom Kang, Department of Systems Management**

A multi-user computer network simulation game model was developed as a decision support tool in a manufacturing and distribution system. The model was written in Powersim® software package, based on system dynamics theories. The game is a "dynamics business environment" in which the outcome is determined by interactions within and between the players in the framework of the industrial system. This game can accommodate simultaneous play by a maximum of seven players. Management's job in the game is to employ its company's resources and to manage its operations in such a way as to minimize the inventory fluctuations and costs.

The purpose of this decision support tool is to provide hypothetical business scenarios in which players and managers can practice decision-making processes in their companies. The simulation game, built in this thesis, can support planning, decision-making, and policy-setting processes by analyzing the effect of changes in the operations and resources that impact inventory level and cost and by providing a means to test and present the proposed policies under different scenarios.

**DoD KEY TECHNOLOGY AREA:** Modeling and Simulation

**KEYWORDS:** System Dynamics, Continuous Simulation, Business Simulation, Network Games, Decision Support Systems, Taguchi Methods

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## MANAGEMENT

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### **DEVELOPING ACCEPTANCE OF OPTIMIZED MANNING IN DD-21: A STUDY OF CHANGE MANAGEMENT**

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**Master of Science in Management-June 1999**

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This thesis examines the plans for assessing and mitigating resistance to optimized manning. The Land Attack Destroyer (DD-21) will be a new surface warship designed to operate with a seventy-five percent smaller crew than today's Destroyers. This dramatic reduction in manpower is part of Optimized Manning, and will likely require equally dramatic changes in training, maintenance, and personnel management. Change management theory says that implementing radical changes to an organization's culture and power structures often incurs resistance.

Data was derived from the writings, presentations, and interviews with DD-21 program officers and consultants. While there is no formal plan for building acceptance of optimized manning, findings indicate that program developers and other stakeholders recognize the potential for resistance and the need to manage it. The main sources of resistance include: cost of automation and technology; Navy culture; legacy systems; designers and sponsors; and a tendency to oversell programs. This thesis recommends the systematic definition of stakeholders and sources of resistance for optimized manning, the selection of a change leader, the creation of activity and commitment plans, and a robust feedback system.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Manpower Policy Issues/Special Studies, Leadership, Requirements Determination

### **BARGING OPERATIONS TO/FROM PORT HUENEME AND SAN NICOLAS ISLAND: A FULL COST ANALYSIS AND MODEL OF THE BARGE PROCESS**

**Michael D. Williamson-Lieutenant Commander, United States Navy**

**Master of Science in Management-June 1999**

**Advisors: James Fremgen, Department of Systems Management  
Shu Liao, Department of Systems Management**

The Navy has wrestled with different ideas and methods of transporting materials and equipment to/from San Nicolas Island (SNI) since it was acquired in 1946. Although many different alternatives have been identified, the predominant mode of travel over the last thirty years has been an ocean going tug and barge with a beach mooring on SNI. The full cost of this operation in 1997 and 1998 was \$2.0 million and \$1.3 million respectively. This thesis examines the costs associated with each phase of the barge operation, barge utilization, variables affecting performance and associated delay costs. In addition, a model is developed to perform "what-if" analysis and to provide a ten-year projection of costs. A database was developed to study the costs and develop the model. Data including barge manifests, labor charges from the Navy Industrial Fund Management Accounting System (NIFMAS), archival weather and tide data were compiled and examined. The study revealed that the barge landed with less than a seventy-five percent success rate throughout the two-year period of study. Since the barge contractor only receives compensation when cargo is off-loaded, the success rate of landings is critical to saving costs. The study concludes with suggestions on how to increase the landing success rate and ultimately reduce transportation costs.

**DoD KEY TECHNOLOGY AREA:** Surface/Under Surface Vehicles-Ships and Watercraft

**KEYWORDS:** Barging, Logistics, Cost Benefit Analysis