

MASTER OF SCIENCE IN MANAGEMENT

STUDY OF NAVAL OFFICERS' ATTITUDES TOWARD HOMOSEXUALS IN THE MILITARY

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Master of Science in Management-March 2000

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This study examines the attitudes of Naval officers concerning homosexuals in the military, including trends in attitudes over the past six years and understanding of the "Don't Ask, Don't Tell" policy. The study also compares attitudes of Navy and Marine Corps officers on the topic. A survey, used in two previous studies (1994 and 1996), was distributed to Naval officers at the Naval Postgraduate School (NPS) in October 1999. Hypothesis testing, factor analysis, and regression analysis were used to analyze responses to the survey. The results show that Naval officers are less tolerant of homosexuals in the military than is the general population; Navy officers are more tolerant than Marine officers; Navy women are more tolerant than men of either service; and junior officers tend to be more tolerant than those in higher ranks. Further, officers with casual or no homosexual acquaintances are less tolerant than are those with friends or relatives who are homosexual. A general trend toward increasing tolerance was observed over the six-year period; yet, levels of misunderstanding regarding the details of the military's policy were as high in 1999 as in earlier years. It is recommended that this study be replicated with a larger military sample.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: "Don't Ask, Don't Tell" Policy, Trend Analysis, Homosexuals in the Military, Navy and Marine Corps Officer Attitudes

THE DELAYED ENTRY PROGRAM AND GENERATION Y

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and

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This thesis studied why recruits leave the Navy Delayed Entry Program (DEP). It employs a two-pronged methodology through analysis of both secondary data and primary data. The secondary data analyzed consist of the Youth Attitude Tracking Study (YATS) and the New Recruit Survey (NRS). The primary data analyzed consisted of a focus group with DEP personnel and a telephone survey of DEP dropouts. Emphasis is placed on the attitudinal characteristics of Generation Y in relation to Navy recruits. Recommendations are offered for the Navy DEP program.

DoD KEY TECHNOLOGY AREA: Other (Navy Recruiting)

KEYWORDS: Delayed Entry Program (DEP), Generation Y, Attrition, Navy Recruiting, Youth Attitude Tracking Study (YATS), New Recruit Survey (NRS)

**DESIGN, IMPLEMENTATION, AND ANALYSIS OF THE PERSONNEL, OPERATIONS,
EQUIPMENT, AND TRAINING (POET) DATABASE AND APPLICATION PROGRAM
FOR THE TURKISH NAVY FRIGATES**

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The Turkish Navy frigates have a challenging mission, which encompasses tactical, operational and administrative tasks. Lacking an automated information infrastructure hinders the ships' ability to efficiently perform the administrative activities to generate the required reports quickly and to make effective decisions based on this information.

The objective of this thesis is to design and implement the Personnel, Operations, Equipment, and Training (POET) Database and Application Program for the Turkish Navy frigates and to analyze the potential benefits that will be obtained by using this system. The POET database system will provide the Turkish Navy frigates with an automated information system that will support the administrative activities, release manpower to perform other duties and reduce the productive power loss by increasing the availability, accuracy, and consistency of the data.

The thesis covers the analysis of requirements, conceptual database design using Semantic Data Model, logical database design on Microsoft Access DBMS, and implementation of the application program using Java and JDBC API. The result of this study is a functional application that will eliminate most of the current problems onboard the frigates and result in considerable savings of personnel power and time while providing the required information to the command quickly.

DoD KEY TECHNOLOGY AREAS: Computing and Software, Manpower, Personnel, and Training

KEYWORDS: Database, Relational Database System, Semantic Data Model, Java, JDBC, System Maintenance, Design, Implementation and Analysis of Information Systems

**COST AND OPERATIONAL EFFECTIVENESS ANALYSIS OF ALTERNATIVE FORCE
STRUCTURES FOR FULFILLMENT OF THE UNITED STATES MARINE CORPS
OPERATIONAL SUPPORT AIRLIFT AND SEARCH AND RESCUE MISSIONS**

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This thesis provides a preliminary cost and operational effectiveness analysis of alternative force structures for the United States Marine Corps operational support airlift and search and rescue missions. The four alternative force structures include C-12s and CH-46Es, C-35s and CH-46Es and HV-609s. Lifecycle cost analysis of the alternative force structures using Crystal Ball forecasting provides a 90% upper confidence level lifecycle cost estimate that identifies a mix of C-35s for operational support airlift and CH-46Es for search and rescue as the least expensive alternative. Operational effectiveness analysis provides a measure of overall utility for each of the four alternative force structures based on five measures of effectiveness. The measures of effectiveness examined are air travel time, total travel time, landing site requirements, range versus time on station, and payload versus range. Analytical hierarchy process rankings indicate that

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the HV-609 is the preferred alternative considering these measures of effectiveness. Analysis of cost versus operational effectiveness identifies the HV-609 as the most cost and operationally effective alternative for fulfilling the Marine Corps operational support airlift and search and rescue missions.

DoD KEY TECHNOLOGY AREA: Air Vehicles

KEYWORDS: Tiltrotor, Operational Support Airlift (OSA), Search and Rescue (SAR), Cost and Operational Effectiveness Analysis (COEA), C-12, C-35, CH-46E, HV-609

AN ANALYSIS OF RETURN ON INVESTMENT OPTIONS FOR THE USMC DISTANCE LEARNING PROGRAM

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A study was conducted to examine various aspects of Distance Learning (DL) applications currently under review by the Marine Corps, and determine whether these programs, if initiated, provide a positive Return on Investment (ROI). The objective was to determine how DL applications may be applied in the most advantageous manner, to increase the overall efficiency of current training programs from both a monetary and quality perspective. Specifically, DL applications were evaluated for pertinence to the four categories of learners found within the organizational hierarchy. To accomplish this objective, information was collected from the DL Branch, Training & Education Division, Headquarters, United States Marine Corps, as well as from faculty and staff at the Marine Corps Communications and Electronics Course, Marine Corps Air Ground Combat Center, 29 Palms, California. Results were favorable with a positive ROI being determined from the stated assumptions. Other findings included that the most beneficial application of DL technology should be primarily toward advanced level training with possible considerations for Marines awaiting training, and that due to increased instructional requirements, the timesavings attributed to advances in training technology should not automatically result in reductions in formal course curricula. Simply stated, DL technologies provide great value added potential to enhance knowledge transfer in today's dynamic and fluid training environment, but should be viewed primarily as a complement to, rather than replacement for, traditional instructional methods.

DoD KEY TECHNOLOGY AREAS: Manpower, Personnel, and Training, Other (Distance Learning)

KEYWORDS: Systems Management, Distance Learning, Return on Investment

ACCOMPLISHING THE MISSION OF NATIONAL MISSILE DEFENSE WITH CURRENT TECHNOLOGY

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The purpose of this thesis is to evaluate the Ballistic Missile Defense Organization's proposals for a National Missile Defense (NMD). This thesis compares the costs of missile systems that will provide a NMD, such as Patriot Advanced Capability - 3 (PAC-3), Navy Area (SM-2 Block IVA), Theater High Altitude Area Defense (THAAD), Navy Theater-Wide (SM-3), and the Ground-Based Interceptor (GBI). The data gathered for this thesis included unclassified performance data and the gross cost data relevant to the above systems. Interviews were conducted with personnel that are expert in U.S. Navy SPY radar and Aegis combat systems, and have knowledge of SM-2 Block IVA and SM-3 missile systems.

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This thesis concludes that there is redundancy in the development paths to creating a single, centrally located Ground-Based Interceptor and radar (GBI/GBR) site. By eliminating or amending the 1972 ABM Treaty to allow a multi-site NMD, a Coastal NMD could be constructed in the near future, using technology that is available today and missiles that will be placed on ships starting in 2002. As development of SM-3 and THAAD missile technology continues, these systems could be used to implement a multi-site NMD far sooner than a GBI could.

DoD KEY TECHNOLOGY AREA: Other (National Missile Defense, Ballistic Missile Defense)

KEYWORDS: National, Theater, Area, Missile, Defense, THAAD, SM-3, SM-2, PAC-3

LOGISTICS SUPPORT REQUIREMENTS: A CASE ANALYSIS OF THE TACTICAL QUIET GENERATOR

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Recent trends in technological advances have resulted in the commercial sector leading the military sector in many areas of technological development. As a result, there are many readily available components and end items that can be designed, integrated and assembled into military hardware that will satisfy the stringent requirements of the tactical battlefield. Use of commercial or non-developmental items compresses the overall acquisition time, but currently reduces time available for logistics planning and preparation. The result is new systems being fielded without the necessary support structure in place. Proper use of warranties, Contractor Logistics Support, and Prime Vendor support might improve equipment readiness and ensure the gap is bridged between a newly fielded system and a mature supply support system for optimum benefit to the Department of Defense (DoD) and the taxpayer. Good logistics support planning in the early phases of the acquisition process will reduce the life cycle costs and increase operational availability. Applying these approaches to the Tactical Quiet Generator (TQG) would seem to provide significant benefit and offer other acquisition and logistics professionals valuable insights into the planning of future support arrangements.

DoD KEY TECHNOLOGY AREA: Other (Logistics and Acquisition)

KEYWORDS: Logistic Support, Defense Acquisition, Program Management, Contracting, Acquisition Reform

A CASE HISTORY OF THE UNITED STATES ARMY

RAH-66 COMANCHE HELICOPTER

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The RAH-66 Comanche Helicopter was initiated as the Light Helicopter Family (LHX) in 1982 when an Army Aviation Mission Area Analysis (AAMAA) identified the need for an armed reconnaissance aircraft. Eighteen years later, the program has yet to reach a Defense Acquisition Board Milestone II review.

This thesis described the history of the RAH-66 Comanche Helicopter acquisition program during these years. The research focused on the primary question of what significant events and issues have occurred over the course of the Comanche program that have allowed it to remain a viable program. The research draws several conclusions from the analysis of the Comanche's history. Mainly, despite the significant duration of the program, a valid need for an armed reconnaissance platform still exists.

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Secondly, the innovative program management of Comanche has maintained a positive reputation for the program. Finally, the loss of Comanche at this point in time would severely impact the defense helicopter industrial base.

DoD KEY TECHNOLOGY AREAS: Air Vehicles, Other (Acquisition, Program Management)

KEYWORDS: RAH-66 Comanche Helicopter, Light Helicopter Family (LHX), Acquisition, Program Management, Acquisition Strategy, U.S. Army Aviation, Defense Helicopter Industrial Base

MINIMIZING TIME AWAITING TRAINING FOR GRADUATES OF THE BASIC SCHOOL

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Graduates of The Basic School often spend longer than necessary waiting for their military occupational schools to start. Excessive waiting by graduates is the result of a scheduling conflict between Basic School graduation dates and the start dates of twenty one different schools. This classic scheduling problem results in less available manning for the operational forces. The goal of this thesis is to provide a desktop computer model, based on a linear program, that optimally distributes military occupational specialty quotas to all fiscal year Basic School companies and minimizes the time spent waiting by officers between graduation and the start of their occupational school; while also providing maximum equity of opportunity for all officers to seek any of the twenty one military occupational specialties. The Minimizing Time Awaiting Training model built in this thesis optimally allocates the annual quotas in an efficient and equitable manner using a Pentium II desktop computer in approximately ten seconds. Numerous model runs yielded a total time savings ranging from a high of forty-five work-years, to a low of twenty work-years.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Manpower, Linear Program, Military Occupational Specialties, Modeling, Time Awaiting Training

ARE COMMERCIAL PORTS IN THE CONTINENTAL U.S. CAPABLE OF SUPPORTING MILITARY SEALIFT REQUIREMENTS IN EVENT OF A MAJOR THEATER WAR OR OTHER MAJOR CONTINGENCY?

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This thesis examines the potential impact of military deployment operations in a commercial port. With the closures of the Military Ocean Terminals in Oakland, California and Bayonne, New Jersey, the military must rely, almost entirely, on utilizing commercial ports to support all deployments. These deployments, from supporting routine exercises to major theater wars, will sometimes conflict with the routine operations of the commercial customers in the port.

This thesis discusses the roles of the organizations involved in supporting military deployments from commercial ports and the federal laws in place to ensure there are commercial facilities available to support deployments when required.

This study concludes by identifying areas of concern and making recommendations related to improving military deployments through commercial ports.

DoD KEY TECHNOLOGY AREA: Other (Strategic Sealift)

KEYWORDS: Commercial Strategic Port, Commercial Port Authorities, National Port Readiness Network, Sealift

**AN ANALYSIS OF OPERATIONAL AVAILABILITY OF BRAZILIAN NAVY AND
ARGENTINE AIR FORCE A-4 FLEETS USING SIMULATION MODELING**

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This thesis analyzes the impact of reducing transportation cycle time and consolidating aviation electronic component inventory management on the operational availability of the Brazilian Navy and Argentine Air Force A-4 fleets. The research is based on a scenario where the Brazilian Navy operates twenty A-4 aircraft, while the Argentine Air Force operates thirty A-4s, and both countries rely on manufacturers in the United States for depot-level maintenance. The transportation turn-around-time is extremely long and the cost of some inventory items is very high. A simulation model was developed representing the repair process of a selected group of A-4 critical electronic components. This particular model provides an effective managerial resource for long-term decision making to improve the readiness of aircraft fleet for both countries. We also developed a multiple regression analysis model (metamodel) to find the relationship between spare inventory levels and the operational availability. These results were applied to a linear programming model to find optimal spare levels for these critical components by minimizing the total cost while maintaining the desirable military readiness. Through a cost-effectiveness analysis, we compared the two situations, optimal spare levels with reduced transportation time and actual spare level with current transportation time. Our research concludes that both Armed Forces will improve readiness, while achieving significant savings, if they reduce the transportation time for the aviation electronic components sent to the United States for depot-level maintenance, and collaborate on the inventory management of their A-4 fleets.

DoD KEY TECHNOLOGY AREA: Other (Logistics)

KEYWORDS: Inventory Management, Operational Availability, Simulation Modeling, Transportation Costs, Aviation Depot-Level Maintenance

**ANALYSIS OF FUEL TANKER VESSELS AVAILABLE IN A DUAL MULTI-THEATER
WAR (MTW)**

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This thesis develops a database and makes projections of fuel tanker vessels available between now and 2010 that can support U.S. forces in wartime. The United States Transportation Command and Military Sealift Command must ensure there are sufficient fuel tanker vessels to transport fuel to the forces in a dual multi-theater war (MTW). Once the available assets are known, then DOD can determine the adequacy of the number of vessels based on the fuel requirements. These vessels are of two categories: DOD organic assets and commercial fuel tanker assets.

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What this thesis shows is that DOD assets will remain virtually the same for the next ten years but the number of U.S.-flag tanker vessels will decline dramatically. In a dual MTW scenario there will not be enough DOD or U.S. flag tanker vessels available to meet demand. DOD must consider an alternative policy of outsourcing to foreign flag vessels for the delivery of fuel products to U.S. Armed Forces during war.

DoD KEY TECHNOLOGY AREA: Other (Petroleum, Fuel Tanker)

KEYWORDS: Logistics, Fuel

A SURVEY OF PUBLIC WORKS MANAGEMENT SYSTEMS IN CALIFORNIA CITIES

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This thesis presents the results of a survey of public works management systems used to control resources utilized for real property maintenance and repair and equipment maintenance under the responsibility of public works departments. The survey attempted to find out what management systems public works directors use to prioritize resources, control work, schedule long-range planning, and increase productivity. The results of the survey offer solutions that will help public works directors and shore installation survey offer solutions that will help public works directors and shore installation managers choose successful management systems to control costs, work, and resources.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Management Systems, Public Works, Shore Installation Management

AN ANALYSIS OF THE EFFECTS OF PERSONAL BACKGROUND CHARACTERISTICS AND MARKET DEMOGRAPHICS ON RECRUITER PRODUCTIVITY

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In the current economic and social climate, recruiting young men and women into the armed services has become increasingly difficult. The purpose of this thesis is to examine the effects that individual recruiter background characteristics and recruiting station demographic characteristics have on recruiter productivity. This thesis used data on Navy and Marine Recruiters from fiscal years 1995-99 obtained from the DMDC MEPCOM file. This file was then matched to county level demographic information for the statistical analysis. Multivariate regression models were used to determine the estimated effects of personal background characteristics and station demographics on recruiter productivity for each service. The results of the analysis showed that there were significant differences in effects of the explanatory variables between the services. Recruiter production in the Navy was most affected by the NRD dummy variables, whereas recruiter production in the Marine Corps was most affected by county demographic variables.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Recruiting, Recruiter Production, Recruiter Learning Curves

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ANALYSIS AND EVALUATION OF CURRENT CHALLENGES IN THE AEROMEDICAL EVACUATION MISSION SEGMENT OF THE CIVIL RESERVE AIR FLEET

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The Civil Reserve Air Fleet (CRAF) is a contractual arrangement between Air Mobility Command (AMC) and U.S. air carriers. The agreement states that the airlines will commit a specified number of planes to amc in return for a portion of peacetime government business. The Aeromedical Evacuation (AE) segment of CRAF is the only segment that requires modification to committed aircraft and, therefore, more risk to the airlines. Up until fiscal year 2000, AMC had never filled its requirements for AE.

AMC would like to have more airlines join the AE segment, with each airline providing a few aircraft. This thesis considers the history of the program, lessons learned from previous operations, current strategies, and some alternatives to investigate in order to improve the CRAF AE program and participation by the airlines.

DoD KEY TECHNOLOGY AREA: Other (Civil Reserve Air Fleet, Aeromedical Evacuation)

KEYWORDS: Civil Reserve Air Fleet, Aeromedical Evacuation, Aeromedical Evacuation Ship Set, Liquid Oxygen Support System, Department of Transportation Office of Emergency Transportation

GUIDANCE FOR ARMY CONTINGENCY CONTRACTING OFFICERS IN PREPARATION FOR MILITARY OPERATIONS OTHER THAN WAR

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The purpose of this study is to investigate, analyze, and promulgate the means by which the United States Army can effectively train its Contingency Contracting Officers in preparation for Military Operations Other Than War. This was accomplished by analyzing the literature on effectiveness of current laws and regulations governing contingency contracting and the lessons learned from past operations. Contingency contracting issues analyzed include their fundamental characteristics and effects, purpose of the Contingency Contracting Officers and their requisite roles and responsibilities, environment of statutory and regulatory requirements, adequacy of current training and planning, and training and planning resources that are available. Based on the identified inadequacies, this study proposes the following recommendations. The Contingency Contracting Officers must be more actively engaged in the supported unit's logistics planning process. Each contracting activity must develop its own tailored qualification and certification. To fully capitalize on the capabilities of contingency contracting support functions, the CCOs, FOOs, CORs, and Class A Agents must be trained routinely before the actual deployments. Comprehensive contracting procedures and plans must be developed and incorporated into the contracting support plan. To better utilize the Logistics Civil Augmentation Program, a clearer understanding of its capabilities must be developed and communicated to the operational commanders and their staff officers.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Contingency, Contracting, Contingency Contracting, Training, Planning

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AN ANALYSIS OF THE RETENTION EFFECT OF USING LUMP SUM PAYMENTS FOR THE U. S. MARINE CORPS SELECTIVE REENLISTMENT BONUS PROGRAM

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This thesis examines the estimated effects on enlisted retention in the Marine Corps of changing the Selective Reenlistment Bonus (SRB) payment method to lump sum. The thesis surveys the literature on personal discount rates (PDR) and on models of enlisted retention. The thesis analyzes the potential effect of the payment method on retention of Zone A eligible personnel using a range of PDRs and retention elasticities estimated by the Center for Naval Analyses. The NPV of a lump sum payment was compared to that of the current payment method using the actual SRB multiples for each USMC Occupational Field. The results indicate Zone A first-term Marine retention will increase between 6.8 percent and 11.7 percent if the SRB payment were made in lump sum. The effect of switching to a lump sum payment was also analyzed using the Annualized Cost of Leaving (ACOL) model. The ACOL model estimates reinforced the estimates predicted by this thesis. Finally, a Monte Carlo simulation was run in Microsoft Excel to estimate the probabilities of attaining a given number of Marines across all Occupational Fields. The Monte Carlo simulation runs show an increased probability of obtaining a given number of first-term Marines by changing the SRB payment method to lump sum.

DoD KEY TECHNOLOGY AREAS: Manpower, Personnel, and Training, Modeling and Simulation

KEYWORDS: United States Marine Corps, Selective Reenlistment Bonus (SRB), Personal Discount Rate, Monte Carlo Simulation, Military Manpower, Policy Analysis, Retention, First-Term Alignment Plan (FTAP)

AN ASSESSMENT OF THE RECRUITING STATION LOCATION EVALUATION SYSTEM (RSLES)

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The purpose of this thesis is to assess the effectiveness of the Recruiting Station Location Evaluation System (RSLES) optimization model developed at Naval Postgraduate School as a result of the OSD Recruiting Station Location Project. RSLES was designed to aid DOD decision-makers in determining the optimum number of recruiting stations, their geographic location and staff size. The optimization procedure attempts to maximize contract production subject to service budget constraints. This system integrates an Access database, a GAMS optimizer, and MapInfo graphics to provide a flexible environment to maximize production through market analysis and demographic information. This research applies RSLES to 39 Metropolitan Statistical Areas (MSA) under three different stationing scenarios and analyzes the output to determine the effectiveness of the model. The recommended station location actions of the RSLES model are compared to actual stationing decisions made by the Navy and Army in fiscal years 1999 and 2000. The comparisons show that applying the RSLES model could increase Army and Navy contract production by 3,938 high-quality accessions for all 256 MSA's in the U.S.

DoD KEY TECHNOLOGY AREAS: Manpower, Personnel, and Training, Other (Recruiting)

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KEYWORDS: Recruiting, Manpower Supply, Site Location, Enlistment Supply

A HISTORICAL PERSPECTIVE OF THE GLOBAL TRANSPORTATION NETWORK (GTN)

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This thesis analyzes the changes within the Global Transportation Network (GTN)/In Transit Visibility (ITV) feeder systems and the subsequent ITV they provide by comparing the current position to the past and by examining future trends. Up until now, there has been no definitive documentation showing the initial inception or the subsequent improvements that have taken place in developing the GTN and feeder systems. The inception of the GTN is documented, including some of the “proof of concept” prototypes. The operational prototypes and production systems are also analyzed, including the feeder systems used in the GTN and how the GTN performed during operation Desert Shield/Storm. USTRANSCOM’s vision of the future GTN, up to FY04, is explained along with the authors’ view of possible future GTN capabilities.

DoD KEY TECHNOLOGY AREA: Command, Control, and Communications

KEYWORDS: Global Transportation Network (GTN), Intransit Visibility (ITV), Total Asset Visibility (TAV), Transportation Logistics

AH-64 APACHE COST REDUCTION

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The Total Ownership Cost Reduction (TOCR) Program was implemented to assist the Program Manager (PM) in upgrading components with significant life-cycle costs. Neither a formal database tracking system for corrosion nor a funded program for updating corrosion-susceptible parts exists. In 1996, at Hunter Army Airfield, Georgia, replacement of corroded gearboxes on the AH-64A Apache Helicopter accounted for \$1.12M, yet went unnoticed due to the lack of a comprehensive database. The Apache PM experiences difficulty in taking full advantage of the TOCR program because of application and funding uncertainties. Corrosion of the Apache’s driveline components merits overhaul-procedure modifications under the TOCR program. However, the lack of database tracking and inadequate TOCR program funding discourage PM use. This thesis researches component database tracking and TOCR funding to facilitate the PMs reduction of the Apache’s life-cycle costs.

DoD KEY TECHNOLOGY AREA: Other (Systems Management)

KEYWORDS: Systems, Life-cycle Cost Reduction, Aviation Maintenance, Corrosion, Total Ownership Cost Reduction (TOCR), Cost Reduction, Magnesium Gearboxes, Resin Coating, Pilot Programs

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A STUDY OF FLEET SURGICAL TEAMS READINESS POSTURE IN AMPHIBIOUS READINESS GROUPS

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This thesis describes and evaluates Fleet Surgical Teams (FSTs). It examines how Navy Medicine adapted FSTs to changing support requirements associated with the Total Health Care Support Readiness Requirement (THCSRR) and its deployability posture in Amphibious Readiness Group (ARG) contingency taskings. The FSTs are dedicated medical and surgical assets assigned to the Fleet Commanders-in-Chief (CINC) to increase efficiencies in meeting mission readiness requirements. The FSTs' medical readiness was evaluated against Status of Resources and Training System (SORTS) criteria that included personnel, training, equipment, supplies, and fleet support operations. The SORTS streamlined resource tracking and reporting to improve FST's capability in delivering continuum of healthcare for the Operating Forces. The analysis showed no glaring deficiencies and determined that FSTs contribute positively to overall ARG medical readiness by increased efficiencies through consolidating and integrating Navy and Marine Corps medical units' support capabilities. The Commander, Amphibious Task Force (CATF) Surgeon must continue to monitor both FST and ARG medical readiness, and pay particular attention to the ship's medical department Authorized Minimal Medical Allowance List (AMMAL) inventory levels.

DoD KEY TECHNOLOGY AREA: Other (Medical Readiness, Medical Response Teams)

KEYWORDS: Forward Deployed Naval Forces Surgical Teams

AN ANALYSIS OF THE EFFECTS OF PARTICIPATION AND PERSEVERANCE IN HIGH SCHOOL NON-ATHLETIC EXTRA-CURRICULAR ACTIVITIES ON THE ASCENT TO HIGHER LEADERSHIP POSITIONS AT THE U.S. NAVAL ACADEMY

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This thesis attempts to answer the following research questions: (1) Does participation or perseverance in non-athletic extra-curricular activities in high school (defined as attaining membership or persisting in the same activities throughout high school) result in better leadership performance at the Naval Academy? (2) Can a measure be devised to predict leadership performance at the U.S. Naval Academy based on demonstrated participation and perseverance in high school non-athletic extra-curricular activities? To analyze these questions, a quantitative analysis of the Naval Academy classes of 1994 through 1998 is undertaken to determine if there is a significant relationship between perseverance in extra-curricular activities in high school and leadership ascent at the Naval Academy.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Leadership, Training, Recruitment, Naval Academy

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THE ROLE OF U.S. MARITIME POLICY IN STRATEGIC SEALIFT

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Strategic sealift is essential to the Department of Defense (DoD) for it to carry out its national security mission. Surge sealift is provided primarily by DoD's organic fleet. Sustainment sealift is accomplished through chartering commercial ships. U.S. maritime policy places the primary requirement for sustainment sealift on the U.S. maritime industry. Policies dating to the 1920s attempt to ensure an adequate number of ships by providing operating subsidies and cargo preference. Despite these policies, the size of the U.S. commercial fleet has declined. DoD uses foreign flag ships to meet its needs when U.S. flagged vessels are not available. Foreign flag ship use is significant and presents risk to the conduct of military operations. The world maritime industry has undergone significant change. The rise of flags of convenience and open registries has altered the industry. This thesis reviews U.S. maritime policy, DoD's requirement for sealift and options for obtaining sealift. It identifies and explores the nature of the risk related to strategic sealift facing the DoD as it enters the 21st century and suggests that the risk associated with the use of foreign flag vessels is low.

DoD KEY TECHNOLOGY AREA: Other (Sealift)

KEYWORDS: Strategic Sealift, U.S. Maritime Policy, Risk Assessment

ESTIMATING OPERATING AND SUPPORT COST MODELS FOR U.S. AIR FORCE AIRCRAFT

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Special Abstract text: The USAF Visibility and Management of Operating and Support Cost (VAMOSOC) system is an information system which reports historical O&S costs of Air Force weapon systems. Source data for VAMOSOC comes from a number of USAF financial, logistics, inventory, and operating systems. This thesis examined VAMOSOC data and earlier analysis that flyaway costs, flying hours, number of aircraft, and fleet age were important variables for explaining O&S Costs.

DoD KEY TECHNOLOGY AREA: Other (Operating and Support Cost)

KEYWORDS: Operating and Support Cost, Readiness, Flyaway Cost, Flying Hours

BUSINESS WARGAMING: APPLICATIONS FOR MARINE CORPS MANPOWER POLICY DECISIONS

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Complexity is abundant in nature, in society, and in the workplace. The business sector has recently experimented with business wargaming, which is based upon complex adaptive systems theory, as a tool for policy analysis and management training. Business wargames, based upon agent-based simulation technology, provide a flexible platform using software agents that are programmed with simple rules, interact with each other and their environment. This interaction leads to emergent behavior, which evolves

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from the collective interaction and adaptation of these agents. This thesis discusses the experiences and lessons learned from the U.S. Army's Firm Handshake Proof of Principle business wargame, and applies them to a Marine Corps' counterpart game called SimMarineCorps. SimMarineCorps will model the Marine Corps' Human Resource Development Process (HRDP). This architecture consists of players, screens, agents, rules of engagement, and relationships among and between the players and agents. Critical success factors for SimMarineCorps is General Officer support to ensure that the necessary data/metrics are collected and validated.

DoD KEY TECHNOLOGY AREAS: Human Systems Interface, Manpower, Personnel, and Training, Modeling and Simulation

KEYWORDS: Manpower, Manpower Policy, Business Wargaming, Simulation, Agent Based Simulation, Complexity, Complexity Theory

