

# MASTER OF SCIENCE IN MANAGEMENT

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## MEASURES OF READINESS IN NAVY MEDICINE: PROBLEMS AND POLICY DEVELOPMENT AFTER THE COLD WAR

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This thesis attempts to map the changes to guidance and policy that have had an effect on Navy medicine's readiness program. Documents reviewed for this thesis include but are not limited to DOD, GAO, and service IG reports, studies by the RAND Corporation, Center for Naval Analysis, Institute for Defense Analysis, and Logistic Management Institute, congressional testimony, and relevant DOD and Navy directives and manuals. Interviews and electronic mail with officials associated with Navy medicine include Deputy Commander of MED-27, J-4 Medical Readiness Division Chief, RROC director, N931 Analyst, and DMRTI. Measuring medical readiness is a large and complex issue and the military medical systems use a variety of data and models in an attempt to measure readiness. The conclusions of this thesis are that many groups and individuals are providing guidance for Navy medical readiness and changes have been produced at a rapid rate. Considerable uncertainty and variety remains concerning who and how we need to train for wartime medical care. To address these problems, Navy medicine created the RROC and its subordinate task forces.

**DoD KEY TECHNOLOGY AREAS:** Manpower, Personnel, and Training, Other (Military Medicine, Healthcare)

**KEYWORDS:** Medical Readiness, Navy Medicine, Force Health Protection

## AN ANALYSIS OF THE EFFECTIVENESS OF THE U.S. ARMY RECRUITER INCENTIVE PROGRAM TO MOTIVATE RECRUITERS: A SURVEY OF ENLISTED RECRUITERS

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This thesis examines the United States Army Recruiting Command incentive system used to motivate recruiters to meet and/or exceed mission box. In 1998, for the first time in decades, the Army missed its annual recruiting mission. The Army expects to miss it again in 1999. A sample of 2,000 on-production recruiters were randomly chosen to receive a survey regarding which incentives motivate recruiters to meet and/or exceed mission box.

Findings indicate that the current incentives do not motivate recruiters to meet or exceed goal. What does seem to motivate recruiters are intrinsic factors such as time-off and meritorious promotion and other

incentives like choice of follow-on assignment and family support. Recommendations to improve the incentive system to implement more intrinsically motivating incentives are recommended.

**DoD KEY TECHNOLOGY AREA:** Other (Manpower Systems Analysis)

**KEYWORDS:** Army Recruiting, Incentive Programs

**A DECOMPOSITION ANALYSIS OF FIRST-TERM ATTRITION IN THE U.S. MILITARY**

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This thesis analyzes causal factors associated with first-term attrition for all four military services. In particular, it seeks to identify demographic and other factors that have influenced changes in attrition over time. The thesis draws on data provided by the Defense Manpower Data Center on entry cohorts for fiscal years 1984, 1989, and 1994. Separate multivariate models are estimated for each service and each year. These models are used to implement a decomposition analysis of the changes in attrition between 1984 and 1989, between 1989 and 1994, and between 1984 and 1994. The decomposition technique analyzes the portion of the changes in attrition over these periods that is attributable to changes in the demographic composition of the entry cohorts and the portion due to changes in the estimated model coefficients.

The thesis finds that sex, education, race, AFQT scores, and months spent in Delayed Entry Program consistently affect attrition behavior while the relationship between age at entry and attrition is not clear. The decomposition technique used in the thesis finds that there are generally big differences between the predicted and the actual changes in attrition and that the direction of the predicted change and actual change is generally in opposite directions. The thesis recommends that the role of other factors, such as service-specific policies be researched to keep attrition from further rising and that the decomposition technique be replicated for other beginning and end points.

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

**KEYWORDS:** First-Term Attrition, Multivariate Logit Models, Decomposition Technique

**THE NAVY'S "MOMENT OF TRUTH": AN ANALYSIS OF RECRUIT  
EXPERIENCES AND OUTCOMES**

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Each year, thousands of recruits reveal one or more questionable events in their past during the "Moment of Truth," which occurs on the first full day of boot camp at the Navy's Recruit Training Center, Great Lakes, Illinois. This thesis examines the nature of these revelations and their outcomes. The records of 8,076 "Moment of Truth" recruits from Fiscal Years 1998 and 1999 are analyzed with respect to demographics, nature of admission (legal, medical, etc.), and disposition of the recruit (retained, waived, discharged, etc.). The data for retained "Moment of Truth" recruits were matched with the Defense Manpower Data Center's Enlisted Master File to determine whether these recruits subsequently became early losses and, if so, under what discharge code. Discharge rates and loss categories were then compared with those of all recruits during the same years. The results indicate that "Moment of Truth" recruits have a higher rate of discharge than do other Navy recruits after two and six months of service.

**DoD KEY TECHNOLOGY AREA:** Other (Manpower Systems Analysis)

**KEYWORDS:** Recruits, "Moment of Truth," Early Attrition, Pre-Service Criminal History, Drug Use

**CORRELATION ANALYSIS: ARMY ACQUISITION PROGRAM  
CYCLE TIME AND COST VARIATION**

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A changing threat environment, decreasing defense budget, and need for modernization are forcing the Acquisition Process to reform policies and procedures. The Acquisition Process must develop initiatives to reduce both program cycle time and program cost to meet the challenges presented by this new acquisition environment. The objectives of this thesis are to explore the overall cycle time and cost growth trends in Army Acquisition Programs, and determine how program schedule growth affects program cost. This analysis is relevant in facilitating development of acquisition reform initiatives targeted at reducing program schedule and cost. This study concludes that Army programs experience average cycle time growth of 19.6 months and average cost growth of 49.9%. A significant research finding is that Army programs demonstrate a relationship between schedule growth and cost growth. This research also reveals that program cost growth, identified in the SARs as being induced by schedule growth, is only 14.3% of cost growth adjusted for quantity change. This thesis suggests that schedule growth have a larger effect on cost growth than indicated in the SARs. This research intends to function as an overview of Army Acquisition Program schedule and cost growth, and the relationship between these two important program elements. This thesis generated numerous results that should be explored with further detailed analysis.

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

**KEYWORDS:** Cycle Time Growth, Cost Growth, SAR Data, Acquisition Process, Correlation Analysis, Development Cost Curves, Changing Defense Environment

**AN ANALYSIS OF DoD FRAUDULENT VENDOR PAYMENTS  
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Over the last several years, fiscal responsibility in government has been a major issue impacting the Services. As part of fiscal responsibility, the elimination of fraud in the Services is essential. This thesis provides an analysis of fraudulent vendor payments in the DoD. It examines (1) fraud in general, (2) management controls, (3) DoD vendor payment systems, (4) the DoD fraud detection unit, Operation Mongoose, and (5) known DoD fraudulent vendor cases in light of their management control weaknesses. A high risk of fraudulent vendor payments were present in the DoD, pre-DFAS finance and accounting systems and the current DFAS configuration. DFAS has aggressively pursued several initiatives to increase the accuracy of DoD financial management systems and reduce the risks of fraud by using computer technology. The vendor payment cases demonstrate the high risk of fraud due to management control weaknesses. The primary control weakness found include inadequate segregation of duties and unlimited access to the computer systems.

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

**KEYWORDS:** Fraud, DoD Vendor Payment Systems, Financial Management

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### **MODERNIZATION THROUGH SPARES: AN ANALYSIS OF IMPLEMENTATION AT THE U.S. ARMY AVIATION AND MISSILE COMMAND**

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Modernization of legacy systems is one of the greatest challenges facing the U.S. Army today. In 1997, the Army spent \$6 billion on spare and repair parts, exceeding the amount spent on new procurements. Yet, these spares, purchased based on the original design specifications, only served to maintain legacy systems, not improve them. The Modernization Through Spares (MTS) strategy seeks to leverage spares funds to achieve incremental modernization of legacy systems through the attrition of existing parts. Instead of buying the same old parts, MTS advocates the purchase of upgraded, or modernized, parts.

This thesis is undertaken to analyze and document the Army's MTS policies and guidance, and to evaluate implementation at the Aviation and Missile Command (AMCOM). Case study documentation presents various approaches being followed in three programs implementing MTS. A principal finding of this research is that while MTS is a revolutionary approach to modernizing legacy systems while reducing life cycle costs, it faces a number of implementation challenges. Key among these challenges are funding, incentives, and the conceptual approach to MTS. This thesis concludes with recommendations for fundamental changes to materially increase the benefits and motivate the use of MTS.

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

**KEYWORDS:** Modernization, Modernization Through Spares, MTS, Spares, Life Cycle Cost Reduction

### **UNITED STATES FUNDING FOR THE UNITED NATIONS**

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Although the U.S. is the largest single contributor of funds to the UN, it is also the largest debtor, owing over \$1.2 billion to the world body. The growth of U.S. arrears is primarily the result of UN peacekeeping operations which more than tripled in number during the 1990's. U.S. reluctance to pay off the debt is breeding resentment among UN members and undermining US influence. This thesis strives to develop an in-depth understanding of the processes and policies used by the U.S. government to provide financial resources to the United Nations. A focused review of pertinent literature and public law sheds light on how the numerous limitations on U.S. spending for the UN threaten the fiscal well-being of the United Nations. The UN budget structure, the congressional budget process, and major factors influencing US spending for the UN are explored, as well as the implications of continued U.S. reluctance to pay its UN debts. Major findings are that the growth of U.S. arrears is a result of increased fiscal constraints within the U.S. budget, the politics linking U.S. funding for the UN to international family planning (abortion), and pressure for the UN to initiate administrative and peacekeeping policy reforms.

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

**KEYWORDS:** Budgeting, Funding, Peacekeeping, United Nations

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### AN ASSESSMENT OF THE IMPACT ON THE ARMY'S FORCE XXI PROCESS IN DIGITIZING AVIATION BRIGADE UNITS

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This thesis examines the issues encountered by the United States Army Aviation during the implementation period of the Army's Force XXI process. The research focuses on the digitization impact on the brigade and its subordinate units as aviation prepares to proceed into the 21<sup>st</sup> Century. The dynamics and complexity of digitization require utilization of the Army's warfighting requirements framework. This framework consists of the following domains: doctrine, training, leader development, organization, materiel, and soldier (DTLOMS). These domains or DTLOMS provide the mechanism to record the implications of Force XXI and identify lessons learned in the process. Force XXI is the concept that the Army will use to manage and exploit anticipated revolutionary changes in technology. This information-based concept will transform the entire Army's requirements determination process, materiel acquisition approach, and garrison and wartime operations. The case analysis identifies significant warfighting requirement issues in the DTLOMS framework impacting Aviation. Conclusions drawn from the analysis revealed that the Force XXI effort to digitize aviation brigade units is progressing on the right path to the next century accompanied with training, integration, and acquisition challenges. Implementing the recommendations to combat these challenges should harness the digitization effort and manage the risks associated with the paradigm shift, so aviation can effectively prepare its forces for the future.

**DoD KEY TECHNOLOGY AREAS:** Command, Control, and Communications, Manpower, Personnel, and Training, Other (Research, Development and Acquisition)

**KEYWORDS:** Army, Force XXI, Digitization, Aviation, Doctrine, Training, Leader Development, Organization, Materiel, Soldier, DTLOMS, Impact, Brigade, Combat Developer, Training Developer, Materiel Developer, Warfighting Requirements

### A COMPARATIVE ANALYSIS OF SELECTED HEAVY EQUIPMENT FUNCTIONS AT THE NAVAL SUPPORT ACTIVITY MONTEREY BAY AND THE CITY OF MONTEREY, CALIFORNIA

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To meet continuing budget and personnel limitations and to fund weapons modernization, DoD is increasing its emphasis on outsourcing support activities to reduce costs and increase efficiencies. Recent studies suggest that aggressive outsourcing of support activities by the DoD could produce billions of dollars in savings. This thesis examines the applicability of outsourcing and partnering initiatives at the Naval Support Activity, Monterey Bay (NSAMB), and the City of Monterey, California, to reduce selected heavy equipment management costs. To address this issue, a review of business practices and industry publications associated with vehicle fleet management, relevant financial and maintenance data from both entities, and semi-structured interviews with a total of 15 individuals from both organizations, were conducted. Findings indicate that NSAMB and the City of Monterey could benefit from a partnering arrangement for selected heavy equipment functions. However, organizational climate issues (i.e.,

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employee trust) must also be considered when making the decision to outsource or partner. This study indicates that outsourcing and partnering initiatives may increase employee stress and distrust which must be managed concomitantly with cost reductions.

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

**KEYWORDS:** Outsourcing, Partnering, Cost Analysis, A-76 Competitions, Public Works, Heavy Equipment

### UNITED STATES ARMY INCENTIVE PROGRAM: INCENTIVES THAT MOTIVATE RECRUITERS

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This thesis examines the United States Army incentive programs used to motivate Army Recruiters. In the late 1990s, U.S. Army recruiters are having substantial difficulty meeting their recruiting-mission requirements. Sixty recruiters and staff personnel at the brigade, battalion and company echelons were randomly selected and interviewed on how the various national and local incentives motivate recruiters to meet and exceed recruiting-mission requirements.

Findings indicate that the overall incentive program does not appear to motivate recruiters. What seems to motivate recruiters are intrinsic factors such as self-motivation and time-off. A surprise finding emerging from the study was the apparent absence of any measurement system to evaluate the effect of incentives on recruiter productivity. Recommendations to better align recruiter incentives with desired performance include family rewards, time-off, and a geographic point system.

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

**KEYWORDS:** Army Recruiting, Incentive Programs

### EVALUATING MEDICARE SUBVENTION IN THE MILITARY HEALTH SYSTEM

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The primary research question addressed in this thesis was: "How will the Military Health System and Medicare benefit from Medicare Subvention?" The research described the health care legislation affecting the demonstration project, titled Tricare Senior Prime. Tricare Senior Prime seeks to provide better health care services for dual-eligible military retirees without shifting costs to the DoD or Medicare. While Tricare Senior Prime adds to the health care options of dual-eligible military retirees, it also adds administrative complexities to Tricare. The health care services provided under the Medicare package are compared to Tricare Care Senior Prime. Medicare does not provide long term nursing care or custodial care, and certain other health care needs such as dental care, eyeglasses, hearing aids, and most outpatient prescription drugs. Tricare Senior Prime is an attractive low cost alternative to dual-eligible military retirees searching for affordable health care. The DoD believes that it can provide health care services to dual-eligible military retirees at a lower cost than Medicare.

**DoD KEY TECHNOLOGY AREAS:** Other (Healthcare, Military Medicine)

**KEYWORDS:** Tricare, Tricare Senior Prime, Medicare Subvention, DoD, Healthcare

**THE EFFECT OF GRADUATE EDUCATION ON THE JOB PERFORMANCE OF CIVILIAN  
DEPARTMENT OF DEFENSE EMPLOYEES**

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The purpose of this thesis is to investigate the effects of graduate education on the job performance of Department of Defense (DoD) civilian employees. The data used in this thesis were drawn from Department of Defense Civilian Personnel Data File, which was provided by Defense Manpower Data Center. The raw data were restricted to employees who possess at least a Bachelor's degree and are paid under General Schedule (GS) or General Management (GM) pay systems. Four performance measures were developed to investigate the effect of graduate education on job performance: salary level, promotion, retention, and performance rating. Four multivariate models were constructed for these performance measures. Ordinary least square (OLS) techniques were used to estimate the salary model. Logistic regression was used to estimate the promotion, retention, and performance rating models. The results found that the effect of having a Master's degree was positive in the salary, promotion, and performance ratings models. The effect of a Master's was negative in the retention model. All these findings were consistent with basic human capital investment theory. The thesis recommends that future research develop alternative job performance indicators and focus on specific occupations and functional areas.

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

**KEYWORDS:** Graduate Education, Job Performance, DoD Civilian Employees, Salary, Promotion, Retention, Performance Rating

**REVOLUTIONIZING THE UNITED STATES ARMY'S CHEMICAL DEFENSE THROUGH THE  
ACQUISITION OF SOFTWARE AND SOFTWARE-INTENSIVE SYSTEMS**

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This thesis presents an analysis of how the United States Army can revolutionize the passage of critical chemical defense information on the battlefield. The current process for passage of this critical information is heavily dependent on short-range and stand-alone chemical detection systems, transmitted over secure radio vertically throughout the chain of command. These factors result in inaccurate, time-lagged information reaching command decision-makers, increasing the risk of contaminating additional soldiers and equipment. Through the insertion of new products, with integrated software to automate the passage of this hazard information, the Army is changing this process for the flow of chemical contamination information. The resulting new process is expected to increase battlefield awareness thereby decreasing the probability of spreading the contamination across the battlefield, maintaining the ability for soldiers to accomplish their missions. Analyzing this change using Davenport's model for large-scale innovation, the revised chemical process still requires additional equipment and cultural changes to maximize the effectiveness of the Army XXI soldier.

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**DoD KEY TECHNOLOGY AREAS:** Chemical and Biological Defense, Other (Information Systems)

**KEYWORDS:** Chemical, Chemical Defense, Acquisition, Information Systems, Process Innovation, MICAD, Joint Vision 2010, Army 2010, Army XXI, Army After Next

### **EXTERNAL ENVIRONMENTAL ASSESSMENTS AT THE TEST AND EVALUATION CENTERS: THE FIRST STEP TOWARDS STRATEGIC PLANNING**

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This thesis examines external environmental assessments conducted at three DoD test centers. It finds that these assessments are not as well developed as they could be and that only superficial examinations of the organizations opportunities and threats have been attempted. Recommendations for improving the test centers external environmental assessments as part of their strategic planning and management efforts are offered.

**DoD KEY TECHNOLOGY AREAS:** Other (Test and Evaluation, Instrumentation)

**KEYWORDS:** Strategic Planning, Strategic Management, Test and Evaluation, External Environmental Assessment, White Sand Missile Range, Yuma Proving Ground, Aberdeen Test Center, MRTFB