

MASTER OF BUSINESS ADMINISTRATION

AN ANALYSIS OF USMC HEAVY CONSTRUCTION EQUIPMENT (HCE) REQUIREMENTS

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According to I&L, HQMC, the Marine Corps needs to re-evaluate current operational requirements for engineer construction equipment. Acquisition and force allocation levels for equipment have remained essentially at constant 1970s, Cold War levels. Because acquisition and allocation levels have not changed at the same rate as personnel, there is a perception that much of the existing equipment is unnecessary. Impacts for supporting too much equipment are decreased readiness, increased maintenance requirements, and increased O&M costs. The objective of this MBA project is to identify the correct quantity of construction equipment required to support the future needs of the USMC, focusing on unit training and Marine Expeditionary Unit (MEU) deployment cycles. This study will also evaluate the cost effectiveness of various alternatives for supplying the right amount and mix of CE to support contingencies via the civilian industrial base (lease/purchase decision factors, as well as domestic/international supplier issues). A review of USMC CE acquisition history was performed in order to determine how the Marines have procured engineer equipment. Additionally, the annual volume of equipment that has been purchased or otherwise procured from industrial sources and the expected life cycle of existing equipment owned by the Marine Corps was determined. With this information, the ability and willingness of suppliers worldwide to provide needed equipment for replacement of expired gear or in support of emergent contingencies was assessed. The objectives were to determine the correct amount and mix of construction equipment to maintain at the Battalion level, and to identify some cost effective alternatives for supporting battalion operations and training requirements.

KEYWORDS: Engineer Equipment, Construction Equipment, Logistics, Material Management, Inventory Reduction, Life Cycle Cost, Life Cycle Management

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A COST EFFECTIVENESS ANALYSIS OF USING ALTERNATE MATERIALS FOR NON-SKID IN SHIPBOARD APPLICATIONS

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This MBA project investigated and evaluated the cost effectiveness of using alternative materials in shipboard construction, specifically in the area of non-skid application on surface ships. This project identified the costs and benefits of different alternatives to the currently used non-skid and identified whether these alternatives would be feasible for use onboard Navy ships. The analysis indicates that the Thermion alternative shows the potential for the most significant cost savings across the Surface Fleet, while the Liquidmetal alternative also shows potential for savings compared to the current status quo. It is recommended that both the Thermion and Liquidmetal alternatives be prototyped on Navy warships to better define their costs and benefits and evaluate their suitability for use.

KEYWORDS: Cost-benefit Analysis, Cost Effectiveness Analysis, Non-skid, Amorphous Metal

TRANSFORMATION OF DOD CONTRACT CLOSEOUT

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The Department of Defense (DoD) has tens of thousands of contracts physically completed but not formally closed-out. At issue are potentially millions of dollars that are obligated on those contracts which could be de-obligated, thus making them available for use by DoD. At the request of the Deputy Assistant Secretary of the Navy for Research, Development, and Acquisition (Acquisition Management), this team was formed to chart the current contract closeout process and to recommend ways to improve and transform the process while reducing the current backlog of physically completed contracts.

This report identifies the steps necessary to affect contract closeout once a contract becomes physically complete. Utilizing data from available DoD and non-DoD sources and interviews from personnel managing and working within the contract closeout process at several Governmental activities involved in affecting closeout, this team: (1) identifies the major causes preventing contracts from closing in a timely manner, (2) provides recommended actions to reduce the size of the overaged inventory of physically completed contracts, and (3) recommends modification to the existing closeout process to include pre-award and administration period actions in order to reduce the number of contracts that become overaged.

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KEYWORDS: Overaged Contracts, Physically Complete Contracts, Contract Closeout, Transformation of Contract Closeout, Batch Processing Physically Complete Contracts, Organizational Archetypes

A STRATEGIC MARKET ANALYSIS OF THE OPEN MARKET CORRIDOR

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The purpose of the MBA Project was to perform an analysis of the market and environment of Government and commercial e-commerce opportunities in order to identify key stakeholders, critical issues, and an overall marketing strategy for the Open Market Corridor. Through comprehensive literature review and information gathering, a focused analysis of a specific potential customer, Naval Supply Systems Command (NAVSUP), is conducted to highlight the threats and opportunities to the system.

KEYWORDS: Government, Commercial E-Commerce, Open Market Corridor, Naval Supply Systems Command, NAVSUP

COST BENEFIT ANALYSIS OF PIER REFUELING VERSUS BARGE REFUELING AT THE FLEET INDUSTRIAL SUPPLY CENTER FUEL FACILITY, PEARL HARBOR, HAWAII

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The purpose of this MBA project was to complete a cost-benefit analysis of refueling via pipeline versus refueling via barge at Pearl Harbor, Hawaii. The alternatives are: (1) refueling via a combination of pipeline and barge (status quo), (2) refueling via a single pipeline, and (3) refueling via barge only. The objective was to compare the three alternatives, choosing that alternative that provides the greater net benefit and most efficient use of resources. The analysis involved data collection of labor costs, pipeline operations (flow rates data, costs of repairs, and operational costs), barge operational costs, and environmental protection costs. This Cost Benefit Analysis (CBA) will be valuable to personnel with approval authority who make decisions on the merits of future pipeline projects. This CBA can be used to evaluate other Navy bases' refueling operations worldwide.

KEYWORDS: Petroleum Management, Cost Benefit Analysis, Refueling, Navy Fuel

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ANALYSIS OF THE SHIP OPS MODEL'S ACCURACY IN PREDICTING U.S. NAVAL SHIP OPERATING COSTS

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The purpose of this MBA Project was to investigate and provide a comprehensive analysis of the accuracy of the Ship Ops model used by the U.S. Navy to budget for ship-operating costs. This project was conducted with the sponsorship and assistance of the OPNAV N82 office, also known as the Office of Budget (FMB). The goal of this project was to improve FMB's ability to predict ship-operating costs through the use of an improved Ship Ops model. This project provides an in depth introduction to the Ship Ops model currently in use and an analysis of the model's performance in predicting accurate operating costs. The project also provides suggestions for improvements to the model and tools that can be used to predict costs on an individual ship level that is not possible with the current model. This project observed only limited improvements in predicting Repair Parts and OPTAR cost through the use of regressions based on operational data such as days underway. Significant improvement was observed when the current moving average methodology for predicting Repair Parts cost was replaced with a regression-based prediction based on a sequential independent variable, Fiscal Year.

KEYWORDS: Cost Analysis, Cost Estimates, Forecasting, Navy, Naval Vessels (Combatant), Operating and Support Costs

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The mission of Naval Facilities Engineering Command (NAVFAC) is to plan and deliver innovative, best-value, technology-leveraged solutions and alternatives that enable the clients to accomplish their missions. NAVFAC is the major claimant for the eleven Engineering Field Divisions/Activities (EFD/A). The Officer in Charge of Contracts (OICC) is responsible primarily for the post-award phase on the construction contracts that NAVFAC administers. The OICCs work at various field offices throughout the NAVFAC organization.

The resource sponsor for NAVFAC is N4, Fleet Readiness and Logistics, who is responsible for identifying the mission and authorizing requirements for NAVFAC. As the major claimant, NAVFAC is responsible for determining the requirements for the EFD/As to be funded by N4. Due to limited funding, the Navy is required to be as efficient as possible. This project analyzes the current manpower algorithm used to determine requirements for the EFD/As. It was determined that the current algorithm does not

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reflect a number of factors impacting work-hours. An analysis was conducted to derive a more accurate algorithm to include the number of contracts and a method to include other missing factors such as distance, complexity, other military construction providers, and commanding officer interest, etc. The conclusion of this study is that a more accurate algorithm that includes these missing factors is essential to the safe, efficient, and thorough completion of workload accomplished by the EFD/A in support of NAVFAC's mission and the ultimate responsibilities of N4.

KEYWORDS: Naval Facilities Engineering Command, NAVFAC, Engineering Field Divisions/Activities, EFD/A, Officer in Charge of Contracts, OICC, Post-Award Phase, Construction Contracts, N4, Fleet Readiness and Logistics

THE BULGARIAN MINISTRY OF DEFENSE PROCUREMENT SYSTEM IN THEORY AND PRACTICE-A MINISTRY OF DEFENSE PERSPECTIVE

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This project analyzes the congruence between the theoretical aspect and legislative base of the Bulgarian Ministry of Defense procurement system and their implementation with the present practices. This will help the proper understanding of how the system works and if it could better serve national security needs. The project analyzes existing acquisition practices and proposes recommendations for improving key acquisition processes and policies. In addition, the project presents an analysis of the procurement system as an organizational structure within the Bulgarian Ministry of Defense, with its existing interconnections and activities. The recommendations for possible improvements consider the existing constraints and barriers that originate from acting legislation, organizational design, or applied practices.

The project is intended to be prolonged and developed additionally by other Bulgarian students from the perspective of their respective organizations and experience.

KEYWORDS: Bulgarian Ministry of Defense, Procurement System, Procurement Legislation

MARKETING THE NAVAL POSTGRADUATE SCHOOL TO NAVY URL OFFICERS

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This MBA Application Project was designed to market the Naval Postgraduate School to all branches of the military, Defense Department, and those concerned with National Security. The intent was to create a position for NPS as the center for defense-related information and knowledge and to place NPS on the career map for all military officers worldwide. However, the authors determined that the critical area of research should focus on addressing the decreasing trend of Navy URL Officer enrollment at NPS.

The starting point for this project was a review of the existing organizational strategic guidance. Throughout the process of assembling a marketing plan, NPS's strategic plan was continually reviewed to ensure marketing strategy was aligned with the desired strategic direction of the school. The tools of strategic analysis were used to assess the organization's external and internal environment, stakeholders, and current direction.

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Research indicated a growing concern for the decline in Navy URL Officers attending NPS. The authors developed some recommendations for successfully implementing the marketing goals of the school while incorporating the school's strategic plan. It is the desire of the authors that those charged with marketing the institution will utilize marketing tactics that are congruent with these strategies. The resulting marketing plan is a clear plan of action, which is consistent with the NPS's goals.

KEYWORDS: NPS Marketing Plan, Marketing to Unrestricted Line Officers, URLs at NPS, Marketing NPS

PACFLT REGIONAL INVENTORY STOCKING MODEL

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This project describes and assesses the current inventory stocking tool used by Commander U.S. Submarine Force Pacific Fleet (CSP), Mission Essential Spare Support (MESS), to manage its SSN stocking levels during a deployment work-up period. A proposed demand based inventory management tool, Pacific Regional Inventory Stocking Model (PRISM), is introduced and compared with the tools currently being used within CSP.

This analysis then evaluates the effectiveness of each system as a management tool, using data from CSP's SSN-688 Fast-Attack Submarines. The decision criteria estimated are operational readiness and associated inventory costs. Statistical simulation modeling is employed to compare these evaluated criteria as determined by MESS and PRISM. This analysis provides evidence that with the inclusion of repair part demand data, cost savings are realized for a specified inventory service level. Recommendations are provided, based on the results of the comparison, as to the feasibility of implementing PRISM, maintaining MESS, or developing a new submarine stocking system to replace the status quo.

KEYWORDS: Inventory Modeling, FLSIP, Stocking, Optimization, Submarine, Demand-based, Inventory, PRISM

UNITED NATIONS PEACEKEEPING: RELIANCE ON CENTRALIZED OR REGIONAL SYSTEM

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The purpose of this project is to examine two alternatives among the numerous recommendations to improve United Nations Peacekeeping. The first calls for improved centralization of United Nations Peacekeeping. The second calls for unification of Peacekeeping operations through joint efforts (political, economical, cultural, religious, military, etc.) at the regional level, in order to include the parties involved in the conflict and their neighboring states in Africa, America, Asia and Europe. The goal of this project is to identify and understand the debate about the changing role of the United Nations Peacekeeping and to identify ways to more effectively manage operations.

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KEYWORDS: United Nations, Peacekeeping, Management, Centralization, Centralized, Regional, Regional Organizations and Arrangements

A NAVY ESCROW ACCOUNT: INCREASING FINANCIAL FLEXIBILITY

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Effective execution of the Department of the Navy's (DoN) budget is critical for national defense. However, political instability and the evolving demands placed upon the Navy and Marine Corps team present challenges in the execution and future planning of DoN budgets. In the current budgetary system, shortfalls are typically funded through targeted cuts while the methodologies for recapitalizing cost savings are non-existent.

The proposed Navy escrow account provides a buffer for rapidly shifting requirements and budgetary shortfalls. It creates an incentive for generating cost savings and the means to redistribute those savings toward emergent financial demands or unfunded requirements.

This study outlines critical factors in creating and maintaining a Navy escrow account. Specifically, it addresses: 1) the proposed operation and functioning of the Navy escrow account, 2) barriers to implementation including legal restrictions and potential congressional and Department of Defense (DoD) resistance, and 3) proposed implementation strategies, including the required cultural modifications and techniques for effectively managing the change process associated with the creation of an escrow account mechanism.

KEYWORDS: Budget, Cost Savings, Department of Defense, Department of Navy, Escrow Account, Recapitalize

A FEEDBACK PERSPECTIVE OF HEALTHCARE DEMAND/SUPPLY RELATIONSHIP AND BEHAVIOR

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The objective of this MBA Project is to explore the relationship between the demand and supply of healthcare in the United States using a System Dynamics feedback loop perspective. The findings demonstrate why the assumption that "more is always better" is flawed in the provision of healthcare in the United States. Using a System Dynamics feedback approach, the study finds that in the healthcare market, the relationship between capacity and utilization is a positive feedback loop. The "Utilization multiplier" captures and processes how capacity drives demand. Moreover, capacity increases because hospitals compete for specialist affiliations and through them for patients. Thus, hospitals tend to duplicate services and expand capacity when competitors already have capacity and offer the same services. In addition to its focus on the healthcare market, the project also shows how a number of fields can be scrutinized by a System Dynamics approach and suggests further ways to apply the approach, specifically in areas of software modeling.

KEYWORDS: TERMS Healthcare, Demand-Supply, Feedback Perspective, Management, System Dynamics, Systems Thinking, System Archetypes, Modeling

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Aeronautical Engineering
Applied Physics
Applied Sciences
Computer Science
Contract Management
Defense Analysis
Electrical Engineering
Engineering Acoustics
Information Systems and Operations
Information Technology Management
Leadership and Human Resource Development
Management
Mechanical Engineering
Meteorology and Physical Oceanography
Modeling, Virtual Environments, and Simulation
Operations Research
Physical Oceanography
Physics
Software Engineering
Systems Technology

