The Department of Systems Management’s mission is to “improve the managerial capabilities and leadership qualities of US and international military officers and government civilians through graduate education, research, and professional service.” Further, the department strives to “conduct research that supports military decision making, problem solving, and policy setting, improves administrative processes and organizational effectiveness, contributes knowledge to academic disciplines, and advances the mission of graduate education.”

Faculty research is an important component of System Management’s mission, and it is integrated to the greatest possible extent with the educational process. Students are encouraged to participate in faculty projects, and faculty research results are typically incorporated in classroom instruction.

With approximately 50 full-time faculty, 20 support staff and 300 students enrolled in one of Systems Management’s graduate education programs at any given time, Systems Management is the largest academic department at the Naval Postgraduate School.

FUNCTIONAL AREAS

The Department of Systems Management has primary responsibility for fourteen academic programs and awards five graduate degrees. The largest program is a group of curricula in the Master of Science in Management. These curricula include Acquisition and Contract Management, Systems Acquisition Management, Financial Management, Manpower Systems Analysis, Material Logistics Support Management, Systems Inventory Management, Defense Systems Management (International), Shore Installation Management, Transportation Logistics Management, and Transportation Management. Additionally, the department offers Master of Science in International Resource Planning and Management program in cooperation with National Security Affairs Department.

Distance learning graduate programs offered by the department include: Contract Management and Program Management (for Department of Defense civilians at designated off-site locations), which award a Master of Science in Contract Management and a Master of Science in Program Management, respectively; and Leadership Education and Development program (for Company Commanders at the US Naval Academy), which awards a Master of Science in Human Resources Management.

The department’s graduates programs achieved the distinction of being one of only two graduate management programs in the country earning dual accreditation by AACSB—the International Association for Management Education and NASPAA—the National Association of Schools of Public Affairs and Administration.

Systems Management faculty are drawn from a wide variety of academic disciplines in business and public sector management. The department’s diverse, multidisciplinary character is reflected in the breadth and depth of issues addressed by faculty research, which has historically been concentrated in areas of interest to the Departments of Defense and Navy. The topics and issues can be grouped into five broad functional areas, based on the department’s:

- Acquisition and Contracting
- Logistics and Transportation
- Financial Management
- Manpower Systems Analysis

PLANNING FOR THE FUTURE: GENERAL GUIDING PRINCIPLES

As noted, research in the Department of Systems Management is multidisciplinary and often widely diverse; but, all research is directed toward a common set of goals. As stated in the department’s mission statement, the department conducts a variety of research to:

- support military decision-making, problem-solving, and policy-setting;
- improve administrative processes and organizational effectiveness;
- contribute knowledge to academic disciplines; and
- advance the mission of graduate education.
The primary goal of the department’s research program is to provide the Navy and DoD with the capability of managing defense systems efficiently and effectively. This includes the efficient and effective utilization of resources, which derive from an existing base of knowledge or may require the development of new concepts and theory. Thus, the department recognizes the importance to the Navy and DoD of both basic and applied research; and it seeks to create a balance of both types of research in its research program.

The department’s research program goals are further specified as follows on the Systems Management “web” page (http://web.nps.navy.mil/~sm/research.html):

• to apply the foundations of existing knowledge in support of resource utilization decisions;
• to develop new concepts or theory where no foundation of knowledge exists to support the policy decision-making process;
• to enhance the relevance of the department’s instructional programs; and
• to involve the students in research, through their thesis work or class projects, in a manner that will enhance their decision-making capability.

Concepts, theory, and existing knowledge can generally be identified with a particular functional area or discipline. Actual resource utilization decisions or policies often require information or perspectives drawn from a variety of functional areas. Consequently, in addition to pursuing functional area research with a critical mass of faculty, the department actively seeks to engage in cooperative, interdisciplinary research. Such research places the department in a strong position to assist defense policy makers, since it allows for a coordinated, broad-based program under “one roof”—where researchers from diverse fields can share information and findings in a unified and truly systematic fashion.

PLANNING FOR THE FUTURE: RESEARCH OPPORTUNITIES BY FUNCTIONAL AREA

As the department prepares for the challenges of the future, it is appropriate to consider research fields that would help Systems Management achieve its program goals and simultaneously assist defense decision-makers. Potential fields of inquiry, or research opportunities for the future, are discussed below by each of the department’s five functional areas.

**Acquisition and Contract Management.** Defense acquisition represents a process of critical importance to the military, not only to reduce taxpayer costs, but to ensure the quality and performance of today’s increasingly sophisticated weapon systems. Nevertheless, negligible academic research has been applied to systematically investigate, understand, and model the acquisition process; and current innovations in this domain—such as process reengineering and acquisition reform—are uncoordinated, ad-hoc, and performed largely on a trial-and-error basis. This is the case because many acquisition policy makers and executives have little or no benefit of theory for practice.

The acquisition group’s primary objective is outlined as a five-year program of multidisciplinary research, designed to address this dearth of acquisition theory. Generally, research objectives are directed at the following:

• basic theory-building research into critical questions;
• fundamental dimensionality and key attributes associated with defense acquisition; and
• exploring the integrated reengineering and reform of acquisition processes through the development of empirical models, prototyping of advanced technologies, and rigorous analysis of process innovations and regulatory reform.

This research represents seminal scholarly work in the area of defense acquisition and draws from expertise in accounting, contracting, economics, information systems, law, organizational design, public policy, and other academic disciplines. The research program also plans for contributions not only from the NPS faculty, but through collaborative research with faculty from other major universities outside DoD. This initial work can also help to establish both a precedent and the standard for other research institutions to follow in terms of acquisition research; and it complements similar efforts by the department and NPS to reach beyond the customary, defense-oriented pool of researchers.

**Logistics and Transportation.** The primary mission of the Logistics and Transportation group is to educate military officers and DoD civilians in state-of-the-art concepts of logistics and transportation management. Emphasis is
placed on understanding both military and non-military applications, so that students will be prepared to perform effectively in a military environment and interact efficiently with civilian contractors and suppliers. The general research perspective of the group is focused on improving DoD logistics and transportation performance as well as management effectiveness. Major research areas for the future include:

- DoD inventory policy;
- inventory and cycle time reduction;
- defense transportation and distribution systems;
- Total Asset Visibility (TAV) and real-time logistics /Transportation control;
- modeling and simulation for logistics decision support;
- reduction of manpower in aircraft and ship maintenance;
- aircraft Component Improvement Program (CIP); and
- sea-based logistics for the Navy and the Marine Corps.

**Financial Management.** Research in the area of financial management has become increasingly important since the end of the Cold War, as defense organizations “downsize” and policy makers exercise renewed efforts to gain maximum utility of shrinking resources at minimum cost. The Financial Management (FM) group has identified three major functional areas as targets of opportunity for future research. These are:

- financial resource policy formulation, analysis and management;
- resource planning systems
- fiscal management and budgeting; and
- cost analysis.

The first of these functional areas—financial resource policy formulation, analysis, and management—covers a range of sub-areas: national defense and national security resource policy and management; resource planning, programming, budgeting, and policy under the Planning, Programming, Budgeting System; and relationships between financial management, contracting, acquisition, and other policy fields. Resource planning systems cover the development of systems, such activity-based management systems (ABM) and enterprice resource planning systems (ERP) capable of generating timely and reliable information for operational decisions. Fiscal management and budgeting includes the following: federal, DoD, and Navy budget formulation and execution; impacts of budget allocation, reallocation, and reduction; implementation of Defense Resource Management Systems; and the Chief Financial Officer Act and federal financial management reforms. The research area of cost analysis, in turn, covers the following: weapon systems and software cost estimation; resource requirement analysis; the cost of new technologies; and cost analysis of major system modifications.

**Manpower Systems Analysis.** As noted above, the primary goal of the department’s research programs is to provide defense policy makers with the capability of utilizing resources with maximum efficiency and effectiveness. The focus of research in the Manpower Systems Analysis (MSA) group is on human resources. Defense manpower policy makers have been faced with many challenges since the end of the Cold War. Key among these challenges were a reduction of the active-duty force by over 30 percent, budget reductions in recruiting and advertising, a steady operational tempo and deployment schedule with fewer people, new missions, declining levels of public and congressional support for the military, increasing pressure to change the “culture” of military service, renewed efforts toward population representation of women and racial/ethnic minorities throughout the force, a seemingly immovable, high rate of first-term attrition among new recruits, declining levels of personnel retention in certain critical areas, a number of high-profile “scandals,” and others. As the active-duty force was reduced and missions changed, it soon became clear that a smaller military had to be even more skilled and adaptable than the one that witnessed the end of compulsory service and performed so successfully throughout the early 1980s and early 1990s. These challenges confronting defense manpower policy makers are recognized by the MSA group as opportunities for research that will have a lasting impact on the future of the force. MSA research areas for the future can be summarized as follows:

- manpower supply and force requirements;
- improvements in selection and classification of enlisted personnel;
- innovations in recruiting and the application of new technologies;
- improvements in selection of officers and pre-commissioning programs;
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• effectiveness of equal opportunity and diversity management programs;
• training effectiveness and efficiency;
• innovations in instructional technologies;
• personnel retention in critical fields;
• reduction of first-term attrition rates among enlisted personnel;
• force management and planning, including Reserve components;
• force structure and cost analysis;
• career-force modeling;
• officer promotion and performance; and
• civil-military relations and the All-Volunteer Force;

The MSA group also expects to continue looking at the future manpower needs of the military, similar to its previous research for the Army, the Office of the Secretary of Defense, and the Navy.

Organization, Management, and Policy Analysis. Faculty in this functional area pursue basic and applied research on key management issues at a variety of organizational levels. Faculty bring a strategic perspective to this work, seeking to identify courses of action that will best achieve organizational goals in a given setting. Individual faculty are acknowledged experts who publish leading-edge research on a variety of issues. Top management issues include strategic planning, stakeholder analysis, organizational design (including the use of self-managing groups), downsizing, and the development of culture. Human resource management issues include the design of strategic reward systems, managing gender and diversity issues, managing stress, forming career identities, and alternative strategies to training and education (including distance learning). There is a strong expertise in leadership issues, including leadership development, the identification of key leadership skills, innovation and change, motivational strategies, empowerment, coaching, communications strategies, conflict management, entrepreneurship, and constructive uses of power.

In addition, faculty have developed considerable knowledge of current military organizations through their research. Most of this work has been with Navy organizations, such as the Military Sealift Command, NAVAIR, CNET, Bureau of Medicine, and CINCLANTFLEET. However, faculty have also worked with organizations in other service branches, including extensive work with the U.S. Army Reserve Command and Coast Guard Headquarters. Recent DoD-wide research includes work for the 8th Quadrennial Review of Military Compensation. Individual faculty have also consulted with state government agencies, the United Nations, and private-sector organizations. This organizational expertise increases the value of faculty as applied researchers for DoN and DoD organizations.

Generally, several research areas will be pursued in the future. These include:

• management of change in complex organizations;
• management of base closures and downsizing;
• diversity management;
• assessment of core values in a changing environment;
• organizational issues related to involvement in nontraditional missions or operations other than war;
• implementing Total Quality in DoD and the Navy;
• issues relating to managerial communication;
• leadership;
• intrinsic motivation (work-derived rewards);
• managing stress and emotion in organizations;
• strategic planning and management; and
• issues related to “reinventing” government.

RESEARCH CENTERS

The Department of Systems Management was the “home” of three research centers: the Center for Information & Policy Analysis, the Center for Diversity Analysis, and the Center for Recruiting Innovation.

RESEARCH OVERVIEW: 1999
In fiscal 1999, Systems Management faculty worked on over 40 research and other sponsored programs, reflecting both the interdisciplinary nature of the department as well as the extensive range of faculty expertise. Funding for these programs totaled approximately $3.7 million. Faculty research outputs include two books, five book chapters, thirteen refereed journal articles, six technical reports, eleven papers on conference proceedings, and numerous presentations at professional conferences. Detailed information on Systems Management research projects—along with a list of related publications, conference presentations, student theses, patents, and other research products—is presented below.
THE IMPACT OF DEPLOYMENT ON U.S. ARMY RESERVE UNITS
John R. Barrios-Choplin, Research Assistant Professor
Department of Systems Management
Sponsor: Vice Chief of Staff, United States Army

OBJECTIVE: To examine morale, turnover intention, and job satisfaction in Army Reserve units that have deployed, and relate their deployment experiences to these factors.

SUMMARY: Deployment experiences adversely affected intention to stay in the unit. Poor leadership was the most commonly cited problem. Other complaints were lack of pre-deployment notice and information, inefficient use of deployed personnel, and inequitable treatment between active duty and reserve troops. Suggestions are offered to alleviate these complaints.

CONFERENCE PRESENTATION:

THESIS DIRECTED:

DESIGNING AN INCENTIVE SYSTEM TO ENHANCE ARMY RECRUITER PRODUCTIVITY
John R. Barrios-Choplin, Research Assistant Professor
Department of Systems Management
Sponsor: Vice Chief of Staff of the Army

OBJECTIVE: This study examined the U.S. Army Recruiter Incentive Program. There were two purposes: Determine which current incentives most motivate recruiters; and determine which new incentives would motivate recruiters.

SUMMARY: Many of the current incentives did not have a motivating effect on recruiters. The most effective current incentives were gold stars and gold badges. The incentives that recruiters identified as being potentially the most motivating were not being offered, or were currently limited. They included time off, family support, and career enhancing rewards. Recommendations were offered to the recruiting command to help them address these issues.

CONFERENCE PRESENTATION:

THESES DIRECTED:

AMERICA’S ALL-VOLUNTEER FORCE
Mark J. Eitelberg, Professor
Department of Systems Management
Sponsor: Office of the Assistant Secretary of Defense

OBJECTIVE: The goal of this project is to chronicle the manpower policies and programs that succeeded - or failed - in sustaining the All-Volunteer Force (AVF); and to provide a “lessons learned” evaluation that will assist in setting a course for the future.

SUMMARY: Information has been gathered from three major sources: Published research, Congressional reports and Department of Defense documents; data maintained by the Defense Manpower Data Center; and interviews with current and former officials in the Department of Defense who were directly involved in designing or executing manpower policies during the AVF era (1973-present). Contractor support was obtained for three phases of the research: a study of the evolution of the AVF; an assessment of the “effectiveness” of the military since the end of the draft; and an evaluation of the military’s experience in Operation Desert Shield/Desert Storm, a defining moment of the AVF. Students at the Naval Postgraduate School have also made important contributions—in the form of project papers and theses—to the research effort. This study is a multi-year effort that looks at ten major areas, including recruiting, compensation, population participation, changing missions, and other topics. Several related publications have been reported in research summaries from previous years.

CONFERENCE PRESENTATION:

THESES DIRECTED:


OTHER:

The principal investigator is preparing a book-length manuscript, tentatively titled *America’s All-Volunteer Force*. Several individuals have contributed to the effort.

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

**KEYWORDS:** Military Manpower, Personnel, Recruitment, Population Representation, Compensation, Force Management, Roles/Missions, Attrition, Military Accession Policy

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**STUDY OF SOCIOECONOMIC STATUS AND PERSONNEL PERFORMANCE IN THE MILITARY**

Mark J. Eitelberg, Professor  
Department of Systems Management  
Sponsor: Defense Manpower Data Center

**OBJECTIVE:** The primary objective of this study is to analyze the relationship between a service member’s socioeconomic status and his or her performance in the military. The study uses the results of the Department of Defense Survey of Recruit Socioeconomic Backgrounds (or “SES Survey”), which has been administered annually since 1989.

**SUMMARY:** A special database was created for this study. The database merges results from the SES survey with the Department of Defense Military Entrance Processing Command Cohort files and various performance-related data provided by the separate Services. The SES Survey sample includes approximately 106,000 recruits (from entry years 1989 through 1995). Initial data analysis compared the demographic composition of survey respondents, by year of entry, with the corresponding base population. This analysis indicated that the sample populations were reasonably representative of all recruits, with the exception of their gender composition. Data analysis will proceed in developing statistical models to examine the relationship between socioeconomic status and selected indicators of performance. The socioeconomic status variable in the statistical models will be based on two indices contained in the SES Survey database. Quantitative analyses may additionally explore the use of alternative socioeconomic measures developed from information contained in the survey database. Four students in the Manpower Systems Analysis Curriculum, Department of Systems Management, conducted thesis research directly related to the research project. This is a multi-year project.

**PUBLICATION:**


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**STUDY OF RECRUIT ATTRITION FROM THE DELAYED ENTRY PROGRAM**

Mark J. Eitelberg, Professor  
Department of Systems Management  
Sponsor: Office of the Assistant Secretary of Defense

**OBJECTIVE:** To identify factors associated with the attrition of recruits from the Delayed Entry Program (DEP); and to identify and evaluate possible approaches that would reduce this attrition.

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**SUMMARY:** A study was designed and undertaken to determine trends in DEP attrition over time, the characteristics of DEP losses, and the reasons for DEP attrition. The initial focus of the study was on dropouts from the DEP who later entered active duty—including their background characteristics, the reasons for their attrition from the DEP, and the nature of their behavior and performance while on active duty. A special database for the study was created with the assistance of the Defense Manpower Data Center in Monterey. This database was also used by students in the Manpower Systems Analysis (MSA) Curriculum for a course project, and by two MSA students who are studying DEP attrition in related theses (scheduled for completion in March 1999). Dr. Eli S. Flyer, one of the nation’s leading authorities on military personnel attrition, is a consultant to NPS on the research project.

**PUBLICATION:**


**THESES DIRECTED:**


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

**KEYWORDS:** Delayed Entry Program (DEP), Recruit Attrition; Selection and Classification, Enlistment Screening, Military Manpower Policy

**DEVELOPMENT OF AN INTERNET-BASED ONLINE RECRUITING STATION (ORS)**

Mark J. Eitelberg, Professor
Department of Systems Management

**Sponsors:** Office of the Deputy Assistant Secretary of Defense and Navy Recruiting Command

**OBJECTIVE:** The goal of this project is to develop a comprehensive Web site that provides an interactive, multimedia-rich, online community environment for learning about, exploring, and applying for Navy jobs.

**SUMMARY:** Research indicates that military recruiting efforts can be improved through greater use of the Internet. The Naval Postgraduate School (NPS) has experimented with a “mock-up” of a new approach to recruiting called the Online Recruiting Station (ORS). The results of initial studies have been quite promising. The site will include three main components: 1) a Self-Discovery module that will incorporate an Interest-Finder (or “interest inventory”), a Work Values Checklist, and the Computerized Adaptive Screening Test (a pre-enlistment exam); 2) an E-Business module (enlistment forms and pre-qualification assessment, in interactive form); and 3) an Online Community Environment, including a chat room, instant messaging, and other features. All components will be presented in a multimedia format, with state-of-the-art technology. An online game will serve as the central feature of ORS. The game will have elements that allow for assessment of player (or potential applicant) skills; and characters within the game will advance through scenarios by participating in the three components of Self-Discovery, E-Business (pre-enlistment forms), and Community or team tasks. Additionally, other potential attractions will be offered through the site: viewing selected events (e.g., flight operations on an aircraft carrier; “battle stations” at boot camp; etc.); and selected commands will staff the chat rooms during specified periods of time (allowing young visitors to “talk” with sailors about their jobs).

Initially, ORS will be developed as an advanced, proof-of-concept prototype. A pilot or “beta” system will follow. A production system will be developed and subsequently launched upon completion of testing and evaluation of the ORS pilot.
THESS DIRECTED:


DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Recruiting, Enlistment Screening, Internet Applications, Military Manpower

STUDIES OF NAVY RECRUITING AND DATABASE DEVELOPMENT

Mark J. Eitelberg, Professor
Department of Systems Management
Sponsor: Navy Recruiting Command

OBJECTIVE: To conduct four research tasks: (1) develop a plan for integrating the Win-STEAM/NPS Station Location Model; (2) analyze recruit attrition at the Navy’s Recruit Training Center; (3) sustain and enhance the TRAINTRACK Information System; and (4) analyze the characteristics of successful and unsuccessful Navy recruiters.

SUMMARY: Task 1 (see above) is a follow-on effort to convert the Navy’s STEAM model to an MS-Windows operating environment and an expansion of DoD-sponsored research to develop a “multi-service recruiter station location optimization model” previously conducted by NPS. Both of these modeling efforts addressed recruiter station location and manning from slightly different perspectives. CNRC has begun efforts to integrate the best aspects of both of these approaches into one model. The CNRC "STEAM Team" and NPS are experimenting with both models using the Navy Recruiting District (NRD) San Diego/San Diego Metro area to obtain results that can be compared and analyzed. Task 2 will be the first of a series of analyses addressing current attrition problems at the Navy’s Recruit Training Center (RTC). This task will take a broad look at RTC systems, including recruit in-processing as well as the Navy recruit's entire "boot camp" experience. Task 3 seeks to enhance TRAINTRACK, an information system developed originally by the Navy Personnel Research and Development Center (NPRDC). CNRC regularly accesses this information system to provide quick answers to questions posed by Navy leaders. NPS plans to utilize Navy analysts at SPAWAR to perform the task. (The Navy analysts created, updated, and maintained the TRAINTRACK database while employed at NPRDC). Task 4 will combine information from several existing databases to determine the characteristics of “successful” and “unsuccessful” Navy recruiters. The integrated database will be longitudinal, incorporating information from Defense Manpower Data Center files, TRAINTRACK, CNRC Inspector General files, as well as from other Navy sources.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Recruiting, Recruiter Performance, Personnel Attrition, Training Attrition, Training Performance, Manpower/Personnel/Training (MPT) Databases

PRODUCTIVITY ENHANCING CONCEPTS

Kenneth J. Euske, Professor
Department of Systems Management
Sponsor: Naval Air Weapons Center, Aircraft Division

OBJECTIVE: The objective of this project is to provide research support to the Naval Air Weapons Center, Aircraft Division in identifying means to enhance productivity.

SUMMARY: The work executed on this project focuses on productivity enhancement in direct and support activities of the Naval Air Weapons Center, Aircraft Division.
THESES DIRECTED:


DoD KEY TECHNOLOGY AREA: Other (Management)

KEYWORDS: Productivity

TECHNICAL SUPPORT TO THE EXECUTIVE STEERING GROUP OF THE COMMERCIAL BUSINESS PRACTICES PILOT

Kenneth J. Euske, Professor
Shu S. Liao, Professor
Douglas Moses, Associate Professor
Joseph San Miguel, Professor
Department of Systems Management
Sponsor: Naval Air Systems Command

OBJECTIVE: The objective of the project is to assess the planning and implementation process of DON’s Commercial Business Practices project and provide recommendations to the Executive Steering Group

SUMMARY: DON’s Commercial Business Practices project has evolved from the concept stage to implementation in six different functional areas: (1) program management, (2) logistics, (3) supply chain, maintenance management, (4) regional maintenance (5) facilities, and (6) financial. Six pilot sites were selected, each focusing on a specific functional area. The installation of an Enterprise Resource Planning (ERP) system will be the centerpiece of each site, with financial data serving as the linkage of these ERP systems. Two of the six pilot sites are in the system acquisition stage, with software developer/system integrator teams competing for the task.

DoD KEY TECHNOLOGY AREA: Human Systems Interface

KEYWORDS: Commercial Business Practice, Enterprise Resource Planning Systems, Information Management

ANALYSIS-OF BUDGET REDUCTION, COST-AVOIDANCE AND FINANCIAL MANAGEMENT INITIATIVES IN COMNAVAIRPAC

Lawrence R. Jones, Professor
Jerry L. McCaffery, Professor
Department of Systems Management
Sponsors: Office of the Comptroller, Commander Naval Air Pacific Forces, and Naval Postgraduate School

OBJECTIVE: To provide assistance to the Office of the Comptroller, AIRPAC in analysis of initiatives for improving command management and management control, cost-reduction and cost avoidance in the Flight Hour Program (FHP) and in accommodating budget reduction.

SUMMARY: The project provided analytical assistance to the Office of the Comptroller, AIRPAC in responding to the necessity for reviewing and assessing options for improving command management and management control, achieving
cost-reduction and avoidance in the Flight Hour Program (FHP) and accommodating budget reduction in the period FY 1998 and beyond.

PUBLICATIONS:


CONFERENCE PRESENTATIONS:


THESES DIRECTED:


DoD KEY TECHNOLOGY AREAS: Other (Resource Management, Financial Management)

KEYWORDS: Resource Management, Reinvention, Financial Management
OBJECTIVE: To determine a cost-effective management plan for the Marine’s fleet of aging KC130 tanker aircraft, and to determine the number of such aircraft required.

SUMMARY: The Marines’ current KC130F/R aircraft eventually must be replaced with new KC130J aircraft. Considering the effects of fatigue, corrosion, and obsolescence on the current fleet, the plan that minimizes the present value of all costs is to immediately retire the F/R-series aircraft and replace them with new aircraft. However, the cost of a plan where current aircraft are upgraded, maintained, and operated for an additional 10 years is not substantially greater.

Approximately 100 KC130J aircraft are needed to meet the stated needs of the Marines. Besides aerial refueling, the Marines use KC130s for ground refueling, cargo delivery, and airborne command and control.

PUBLICATIONS:


THESES DIRECTED:


OTHER:

Drafts of two papers are in preparation, by Professor Gates and Mitchell McCarthy. These papers will combine Major McCarthy’s Thesis and the requirements analysis from the technical report. They will be submitted to the Marine Corps Gazette and an appropriate academic journal.

DoD KEY TECHNOLOGY AREA: Other (Air Vehicles)

KEYWORDS: Cost/effective, Refueling
times to release batches of orders to the workers. The goal is to minimize order cycle time. Detail will be added to the model and test it in the coming year.

DoD KEY TECHNOLOGY AREA: Other (Logistics and Transportation)

KEYWORDS: Warehousing, Cycle Time, Genetic Algorithms

**DISTRIBUTION PROBLEMS IN SEA BASED LOGISTICS**

Kevin R. Gue, Assistant Professor  
Department of Systems Management  
Sponsor: Office of Naval Research

**OBJECTIVE:** To develop methodologies for positioning and distributing items in spatially dynamic and uncertain distribution environments, with particular application to Sea Based Logistics.

**SUMMARY:** New warfare doctrine for the U.S. Marine Corps emphasizes small, highly-mobile forces supported from the sea, rather than from large, land-based supply points. The goal of logistics planners is to support these forces with as little inventory on land as possible. How to configure the land-based distribution system over time to support a given battle plan with minimum inventory is shown. Logistics planners could use the model to support tactical or operational decision-making.

**PUBLICATION:**


**CONFERENCE PRESENTATION:**


DoD KEY TECHNOLOGY AREA: Other (Logistics and Transportation)

KEYWORDS: Distribution, Logistics, Dynamic Facility Location, Multi-Commodity Flows

**OPERATIONAL PROBLEMS IN CROSSDOKING**

Kevin R. Gue, Assistant Professor  
Department of Systems Management  
Sponsor: Unfunded

**OBJECTIVE:** To investigate material handling and layout problems in crossdocking for the retail and trucking industries.

**SUMMARY:** As part of a continuing thread of research, results were obtained regarding the best shapes for crossdocking facilities. Some models and analytical tools were developed to predict which shapes are best for different sizes of docks.

**PUBLICATION:**

A final version of the paper entitled “Reducing Labor Cost in an LTL Crossdocking Terminal,” has been accepted in the journal *Operations Research*.

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

**KEYWORDS:** Facility Layout, Less-than-Truckload Motor Carriers, Crossdocks

**ECONOMETRIC PROJECTION OF ARMY PERSONNEL STRENGTH**

Gregory G. Hildebrandt, Professor  
Department of Systems Management  
Sponsor: United States Army Office of Deputy Chief of Staff, Personnel

**OBJECTIVE:** This study, initiated 1 October 1997, supports the achievement of the required end strength using the Army’s Strength Management System. Retention rates for various categories of officers and enlisted personnel are being projected using econometric forecasting models.

**SUMMARY:** During 1999 representatives of HQDA (ODCSPER) were given two VTC briefings on the econometric forecasting model that was developed for all Army C-groups. A Multivariate Auto-Regressive Integrated Moving Average (MARIMA) forecasting model was employed to relate the retention of first-term enlisted to C-group characteristics such as AFQT, educational level, gender. The results were compared with those obtained using exponential smoothing methods, and the estimated econometric model typically performs much better than such models. A Naval Postgraduate School Thesis on Army retention, which contributes to the project, was supervised in 1999. In October, a final briefing was given to the sponsor in the Pentagon.

**PUBLICATION:**


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

**KEYWORDS:** Army’s Strength Management System, Econometric Forecasting Model, Retention Rate

**TECHNOLOGY-TO-TACTICS FOR SENSOR-TO-SHOOTER NETWORKS:**

A STRATEGY-TO-TASK APPROACH  
Gregory G. Hildebrandt, Professor  
Department of Systems Management  
Col Raymond E. Franck, Jr., Air Force Academy  
Clifford R. Krieger, Dynamics Research Corporation  
Sponsor: Naval Postgraduate School-Institute for Joint Warfare Analysis

**OBJECTIVE:** This analysis builds on previous investigations of the Joint Reconnaissance-Strike Complex (JRUK). The relationship between a JRUK and its constituent sensor-to-shooter networks that have been developed to deal with specified Operational Situations (OPSITS) is being considered. Strategy-to-task framework is used to understand how the technology of a sensor-to-shooter network is related to the tactical concept.

**SUMMARY:** The Precision Strike OPSIT was investigated. Using the Unified Joint Task List (UJTL), Mission-Operations-Tasks-Performance Standards templates were constructed for the Precision Strike Operational Situation. The strategy-to-task framework and multi-attribute utility function analysis was employed as aid to determining the relative value of the Operations and Tasks. The briefing, “Analyzing the Precision Strike Sensor-to-Shooter Network,” was presented at the MORS conference at West Point during June 1999.
INVESTIGATION OF DOD INVENTORY MANAGEMENT

Keebom Kang, Associate Professor
Department of Systems Management
Sponsor: Deputy Under Secretary of Defense for Logistics

OBJECTIVE: A continuing research effort to improve DoD readiness via logistics cycle time and inventory reduction.

SUMMARY: The relationship between inventory levels and repair processes is troublesome in the military because it crosses physical, organizational and financial barriers. Inventory managers strive to consolidate and minimize stocks of piece-parts to free up resources for other priorities. They also seek to get quick turnaround on repairable components in order to minimize pipeline inventory. Depot managers have different concerns, such as reducing costs by increasing worker efficiency and machine utilization. This leads to a natural conflict; inventory managers want short production runs to minimize pipeline inventory, while depot managers want long production line to minimize repair costs. Various quantitative approaches were implemented and applied for analysis of aviation logistics repair cycle time and inventory management.

THESIS DIRECTED:


DoD KEY TECHNOLOGY AREAS: Modeling and Simulation, Others (Logistics)

KEYWORDS: Readiness, Logistics, Inventory Management, Cultural Change

A READINESS-BASED CONTINUOUS REVIEW REPAIRABLE ITEM REPLENISHMENT MODEL FOR THE NAVY

Keebom Kang, Associate Professor
Department of Systems Management
Sponsor: Naval Inventory Control Point

OBJECTIVE: A continuing project to develop a wholesale level inventory model for the Naval Inventory Control Point (NAVICP) to use to replenish and repair its inventories of repairable items; the objective function of this model should be related to readiness.

SUMMARY: This past year simulation analyses of the repairable item inventory management process provided four approximate formulas for describing safety stock under the assumption that demand during lead time is Poisson distributed. A search was also conducted for approximate formulas for the optimal order and repair quantities for any specified maximum inventory position. The optimality measure was the minimum average annual total variable costs to manage the inventory of an item. The formulas were found to be quite complex. Derivations of the probability of being out of stock at any instant of time and the expected number of backorders at any instant of time were completed for the assumption that demand during lead time is Normally distributed. Marginal analysis was used for a set of NAVICP items from 1988 to determine the optimal maximum inventory position for each item that would minimize the aggregate
mean supply response time for the group of items. In the process, it was discovered that using the minimum cost order and repair quantities in the marginal analysis resulted in the optimization process stopping before the budget was used up. This was clearly a conflict of objective functions.

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

**KEYWORDS:** Inventory Management, Navy Repairable Items, Inventory Model

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**ANALYSIS AND EVALUATION OF THE KOREAN FLAG SHIPPING (KFS) PROGRAM USING MODELING AND SIMULATION**

Keebom Kang, Associate Professor
Department of Systems Management
Sponsors: Military Sealift Command and Naval Postgraduate School

**OBJECTIVE:** To study the effectiveness of the Korean Flag Shipping (KFS) program in support of sealift requirements for military cargo including critical munitions and petroleum products from CONUS (Continental United States) and Pacific locations to Korea during a period of wartime mobilization.

**SUMMARY:** The Korean Flag Shipping Program is outlined in a Memorandum of Agreement (MOA) signed on 25 March 1981 by the U.S. Government and the Republic of Korean Government. This MOA outlines the program in which Korean registered merchant vessels could be called upon to assist the U.S. Navy's Military Sealift Command (MSC) in the movement of military cargo including critical munitions and petroleum products from Sea Ports of Embarkation (SPOEs) in the U.S. and Pacific regions to the Korean peninsula. A simulation model was developed to study the effectiveness of the KFS Program, (i) to evaluate the KFS Program MOA to assess the degree to which the MOA is executable and meets the strategic sealift needs of the U.S. Armed Forces, and (ii) to assist the KFS Working Group decision makers in evaluating the effectiveness of the current KFS Program and to help guide the future direction of the program. Various recommendations have been made to improve effectiveness of the program.

**CONFERENCE PRESENTATION:**


**THESES DIRECTED:**


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

**KEYWORDS:** Readiness, Sealift
OBJECTIVE: The Navy has made great progress in bringing minorities and women into the active force, especially on the enlisted side. On the officer side, total accessions have not met aggregate goals. Also, the representation of minorities across pay grades and communities has not met overall goals. Achieving these goals for officers will require assignment and promotion policies that promote overall goals.

SUMMARY: The primary objective of this study was to quantify the impact of various factors on the career progression of minority and majority officers. These factors included background variables such as commissioning source, education, and demographics, as well as achievement of career milestones such as timely qualification in a warfare specialty, promotion, and retention.

The project constructed multivariate statistical models to estimate the relative importance of observed factors that are causally related to indicators of performance and career progression. The models found a large gap in observed fitness report scores between minorities and white officers. Most of this gap remained after controlling for observable background factors. However, the observable factors were able to explain all of the small gap in promotion outcomes between minorities and whites.

CONFERENCE PRESENTATION:


DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Minority Representation, Promotion, Performance, Officer

ANALYSIS OF DELAYED ENTRY PROGRAM AND FIRST-TERM NAVY ATTRITION

OBJECTIVE: Improved recruit screening procedures are needed to reduce Navy attrition from the Delayed Entry Program (DEP) and during the recruit’s first term of service. Improved attrition performance is an important step in reducing CNRC’s accession requirements.

SUMMARY: The purpose of this project was two-fold: (1) to construct databases suitable to statistically examine attrition behavior of new enlistees; and (2) to conduct statistical analyses of demographic and other background factors that can be used to predict attrition behavior of new recruits. The study examined three separate databases. First, a special database was constructed for NPS by DMDC containing all entrants to the DEP for all four services during 1992-1997 period. Second, CNRC provided PRIDE data on Navy-only DEP entrants for the same period. Finally, DMDC cohort files were constructed to examine Navy and other service attrition during enlistees’ first term of service. The analyses of DEP attrition revealed that attrition for females is far higher than for males and the attrition for those who enter the Navy via special enlistment programs is far lower. The analysis of cohort data was able to decompose the effects of background factors versus changes in the marginal relationships on first term attrition.

THESES DIRECTED:


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

**KEYWORDS:** Attrition, Delayed Entry Program, Decomposition Analysis

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**RECRUITING STATION LOCATION PROJECT**

Stephen L. Mehay, Professor
Kevin Gue, Assistant Professor
Michael Cook, Assistant Professor
Department of Systems Management

**Sponsor:** Office of Undersecretary of Defense, Personnel and Readiness

**OBJECTIVE:** The goal of this project is to build an optimization model that assists OSD and the Joint Recruiting Facilities Committee to locate military recruiting stations in specific geographic locations.

**SUMMARY:** This was the final year of this project. Work concentrated on finalizing the development of the decision support system, called the Recruiting Station Location Evaluation Systems (RSLES) as a deliverable to our sponsor. To that end, the model was applied to several actual recruiter and facility stationing actions of the Navy and Army in 39 metropolitan areas in the U.S. In all cases, the RSLES model yielded an improvement in predicted contract production as compared to the actual stationing decision made by the recruiting commands.

**CONFERENCE PRESENTATION:**


**THESES DIRECTED:**


**OTHER:**

Developed software containing decision support system — RSLES (Recruiting Station Location Evaluation System). This software will be delivered this year to the sponsor, the Office of the Undersecretary of Defense and the Joint Recruiting Facilities Committee.

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

**KEYWORDS:** Recruiting, Recruit Stations, Recruiter Assignment, Location Models
OBJECTIVE: To conceive, launch, catalyze and manage an external acquisition research program for the Defense Acquisition University (DAU).

SUMMARY: The DAU is required by law to ensure acquisition research is accomplished. After one year’s work to plan and initiate an acquisition research program, the External Acquisition Research Program was officially launched in FY99. This project involved two activities: 1) research program management and 2) conduct research.

Toward the first activity, a broad marketing campaign resulted in over fifty serious inquiries about the program from top researchers at leading universities. A peer-reviewed proposal process resulted in five research awards of $50,000 each being made to world-class researchers. This also included an acquisition research workshop held at the Naval Postgraduate School last May, in addition to a number of program briefings to high-level DoD officials, including Dr. Gansler, Under Secretary of Defense for Acquisition, Technology and Logistics. The DAU has expressed great satisfaction with the program, and four high-ranking members of the DAU Board of Visitors wrote letters of commendation on my behalf and sent them to the Superintendent and Provost.

Toward the second activity, a stream of research into the study and application of knowledge systems in change management, electronic business and knowledge management is continuously being pursued.

PUBLICATIONS:


CONFERENCE PRESENTATIONS:


THESES DIRECTED:


OTHER:


DoD KEY TECHNOLOGY AREA: Other (Acquisition Policy)

KEYWORDS: Acquisition, Agents, Information Systems, Knowledge Management, Process Innovation

ACQUISITION MANAGEMENT DISTANCE LEARNING PROGRAM
INTERORGANIZATIONAL COLLABORATION
Nancy C. Roberts, Professor
Department of Systems Management
Sponsor: United Nations Staff College

OBJECTIVE: A continuing project that brings together donors, non-governmental organizations, and UN personnel from field and headquarter agencies for the purpose of planning relief and development efforts in crisis countries.

SUMMARY: The United Nations has sponsored an experimental project that brings together the major stakeholders who are intervening in a country in crisis for the purposes of joint planning. Afghanistan was the first country for which such planning was undertaken; it occurred in Islamabad, Pakistan with 86 representatives from various
stakeholder groups in attendance. The purpose of the five-day planning session was to develop a strategic framework for relief and recovery efforts in Afghanistan. The strategic framework developed by field representatives was then sent to stakeholder counterparts at headquarters so a joint policy on Afghanistan could be issued. The lessons learned from this experiment in interorganizational collaboration are expected to inform planning efforts in other crisis countries.

PUBLICATIONS:

CONFERENCE PRESENTATION:

THESIS DIRECTED:

DoD KEY TECHNOLOGY AREAS: Command, Control, Communications, Other (Planning)

KEYWORDS: Planning, Collaboration, Crisis

STRATEGIC PLANNING FOR DEFENSE RESOURCE MANAGEMENT INSTITUTE
Nancy Roberts, Professor
Department of Systems Management
Sponsor: Defense Resource Management Institute

OBJECTIVE: To conduct strategic planning exercises for DRMI.

SUMMARY: DRMI is in a period of transition. It has requested help in its strategic planning exercises. The Bryson model of strategic planning will be utilized to guide its planning efforts. The year-long intervention will include strategic planning, implementation, and evaluation support.

THESES DIRECTED:

DoD KEY TECHNOLOGY AREAS: Other (Planning, Evaluation, Management)

KEYWORDS: Strategic Planning, Strategic Management, Performance Evaluation and Measurement
SYSTEMS MANAGEMENT

FINANCIAL REPORTING AND ANALYSIS RESEARCH FOR THE DEPARTMENT OF DEFENSE SECURITY RESEARCH CENTER
Joseph G. San Miguel, Professor
Department of Systems Management
Sponsor: Department of Defense, Security Research Center

OBJECTIVE: The objective of this continuing research is to provide financial reporting and analysis expertise to the national security research projects of the Security Research Center of the Department of Defense. Specifically, various financial measures such as personal net worth and net income can be used as determinants of potential security risk from federal employees. In addition there are financial implications for security policies and programs of the Defense Investigative Service.

SUMMARY: Numerous initiatives are underway to evaluate the quality of financial and non-financial information for purposes of deterring or detecting security threats. Prior investigation and research has established that financial incentives and payments are generally the primary motives for acts of spying by U.S. citizens. The well-known spy cases involving Aldrich Ames and John Walker are examples. This project will consider the use the financial information for use as predictors of potential security risks and the need for security investigations. Financial information includes unexplained increases or decreases in an individual’s net worth. The various sources of net worth such as earned income, inheritance, or sale of personal assets as well as the uses of net worth for investments and asset acquisitions, are variables that must be considered.

PUBLICATIONS:

DoD KEY TECHNOLOGY AREA: Other (National Security)

KEYWORDS: Financial Analysis, Cost Analysis, Cost Estimation

THE STRATEGIC IMPACT OF ENTERPRISE RESOURCE PLANNING SYSTEMS
Joseph G. San Miguel, Professor
Department of Systems Management
Sponsor: Financial Executive Research Foundation

OBJECTIVE: In recent years, business enterprises have made significant investments in information technology, called enterprise resource planning systems, to improve their strategic positioning, responsiveness to the customer, and market direction. This research examines a number of companies that have implemented enterprise resource planning systems, to better understand the roles and responsibilities of financial managers and the resulting strategic information and performance measurement systems.

SUMMARY: For survival and growth in the global marketplace a firm must effectively allocate its strategic resources, which include human, physical, and financial assets, across business operations and processes. Its strategy must be supported by management systems that assist the planning and control of operations and processes. Today information technology supports these information systems. In recent years enterprise resource planning (ERP) systems have been used as a means to comprehensively link firm–wide operations and processes. The majority of the thousand largest firms in the U.S. have either implemented or in the process of implementing enterprise resource planning systems. Because of the millions of investment dollars involved, executive management are keenly aware of ERP and its promised benefits. Today, ERP vendors and IT consultants are also targeting middle–level firms with annual sales less
than $1 billion. The question is how effective are these significant investments in assisting executive management in achieving corporate objectives.

PUBLICATIONS:


THESES DIRECTED:


DoD KEY TECHNOLOGY AREAS: Other (Cost Management, Information Technology)

KEYWORDS: Financial Analysis, Cost Analysis, Cost Estimation, Strategy

ACQUISITION CENTER FOR RESEARCH AND LESSONS LEARNED
Keith F. Snider, Assistant Professor
Department of Systems Management
Sponsors: United States Army Training, Doctrine, and Analysis Center-Monterey and Naval Postgraduate School

OBJECTIVES: To develop, implement, and operate an internet-based lessons learned system to: focus research resources on important acquisition issues; provide a means to make research results accessible to the acquisition community; and serve as an integrating mechanism for acquisition research needs of warfighters, policy-makers, and practitioners

SUMMARY: This project is being executed jointly by the investigator and TRADOC Analysis Center-Monterey analysts for the Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology). Significant 1999 accomplishments included: establishment of a conceptual foundation for the project in theories of organizational learning; survey and analysis of existing lessons learned systems, with attention to the Center for Army Lessons Learned at Fort Leavenworth, KS; development of system design requirements (e.g., collection methods, validation and review processes); and developmental work on a system prototype. The prototype is scheduled for demonstration and testing during Spring 2000, with system implementation slated for Summer 2000. The project also includes a series of acquisition lessons-learned articles to be published in Army AL&T magazine, which is intended to heighten awareness among acquisition professionals as to the capabilities of the implemented system. The investigator is editing this series, which includes articles written by several NPS faculty members.

PUBLICATIONS:


THESIS DIRECTED:


OTHER: The following are presentations forthcoming in 2000:


DoD KEY TECHNOLOGY AREA: Other (Systems Acquisition Management)

KEYWORDS: Acquisition, Lessons Learned, Knowledge Management, Organizational Learning

LEADERSHIP AND RETENTION IN TROOP PROGRAM UNITS, PHASE IV: VALIDATION AND IMPLEMENTATION OF LEADERSHIP FEEDBACK

Kenneth W. Thomas, Professor
Erik Jansen, Visiting Associate Professor
Department of Systems Management
Sponsor: United States Army Reserve Command

OBJECTIVE: When originally funded by the previous Chief, Army Reserve (CAR), the objective of this project was to increase readiness and retention in company-level units (TPUs) in the U.S. Army Reserve by providing a reliable means of measuring unit commanders’ leadership behaviors and key unit conditions.

SUMMARY: This FY98 project followed three previous phases of a research program to identify, measure, and improve key leadership behaviors by TPU commanders that influenced unit readiness and retention. Phase I had reviewed existing research to construct a conceptual model of how leadership behaviors influence unit retention and readiness via their impact on unit conditions. Phase II had conducted extensive interviews in TPUs to identify specific leadership behaviors and unit conditions seen by unit members to impact retention and readiness. The findings of this phase were widely disseminated within the USAR and resulted in a number of policy changes. Phase III had developed preliminary questionnaires to measure the leadership behaviors and unit conditions. Phase IV would have used those questionnaires to validate and extend the previous findings by quantitatively determining which leadership behaviors had the strongest impact upon retention and readiness measures. It would also have resulted in validated measures of leadership and unit conditions which could be used to mentor TPU commanders on their leadership, to more accurately predict system-wide retention in the USAR, and to suggest policy changes to enhance leadership. During FY98, however, there was a change of CAR and the data collection was cancelled. Remaining funds were closed out during FY99.

DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Leadership Measurement, Retention, Readiness, Troop Program Unit, Army Reserve
**SYSTEMS MANAGEMENT**

**SUPPORT FOR DEVELOPMENT OF TROOP PROGRAM UNIT LEADERSHIP TRAINING**

Kenneth W. Thomas, Professor  
Department of Systems Management  
Sponsor: Office of the Chief, Army Reserve

**OBJECTIVE:** The goal of this project was to increase Troop Program Unit (TPU) readiness and retention by providing improved leadership training for TPU commanders. Specifically, this project developed a program of instruction (POI) for a leadership course for new or prospective TPU commanders, together with a pamphlet on TPU leadership to support that course.

**SUMMARY:** Troop Program Units (TPUs) are company-level units in the U.S. Army Reserve. An existing course for prospective TPU commanders has focused largely on specific administrative tasks, rather than on larger issues related to the effective leadership of the unit. In FY96, Professors Bob Barrios-Choplin and Kenneth Thomas had published the findings of a study that identified specific leadership behaviors by TPU commanders which were related to unit effectiveness: K.W. Thomas and B. Barrios-Choplin, “Effective Leadership in TPUs: Findings from Interviews at 16 Units” (technical report NPS-SM-96-002, Naval Postgraduate School). In FY97, with funding from the Army Studies Program and the support of the Commander, Army Reserve (CAR), the project discussed here developed a revised POI for the existing pre-command course that incorporated key findings from the FY96 study. It also revised the earlier technical report into material for a U.S. Army Reserve Command (USARC) pamphlet on leadership to support that course. During FY98, the researcher remained available for technical support to USARC and to the ARTEP personnel at Fort McCoy, Wisconsin, who were responsible for implementing the revised course, and continuing progress was made on the conceptual model of leadership derived from the earlier USAR research. During FY99, a final report was delivered to the Office of the Commander, Army Reserve (OCAR) on the study. OCAR’s internal evaluation of the project showed that a third day had been added to the pre-command course to offer the new material on leadership and retention, and that the training had been very well received by the junior officers since it was instituted.

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

**KEYWORDS:** Leadership Training, Retention, Readiness, Troop Program Unit, Army Reserve

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**MARINE CORPS RETENTION STUDY**

George Thomas, Professor  
Alice Crawford, Senior Lecturer  
Susan Hocevar, Assistant Professor  
Department of Systems Management  
Daniel Dolk, Professor  
Information Systems Academic Group  
Sponsor: Headquarters, United States Marines Corps

**OBJECTIVE:** To implement Marine Corps electronic retention and exit surveys and analyze first year results. The surveys are intended to provide a data analytic basis for managing officer and enlisted retention. This a continuing project.

**SUMMARY:** This project was initiated in October, 1998. NPS developed retention and exit surveys. Headquarters Marine Corps (HQMC) posted the surveys to their web site. A sample of retention and exit data was collected from June through October 1999. The surveys were analyzed, a process for longitudinal archiving in a data warehouse was developed, and a decision support system (DSS) was developed for generating prespecified reports, ad hoc queries, and data extraction files for other applications.

**PUBLICATIONS:**


CONFERENCE PRESENTATION:


THESIS DIRECTED:


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

KEYWORDS: Officer Retention, Enlisted Retention, Retention Survey, Decision Support Systems

21st CENTURY RECRUITING MARKETS
George Thomas, Professor
Department of Systems Management
Sponsors: Center for Land Warfare and Naval Postgraduate School

OBJECTIVE: To provide trend and impact analysis of the changing population and labor force demographics on the military. This is a project that continues into the current year.

SUMMARY: During CY 1999 population and labor force projections out to 2050 were gathered. The likely impacts of these changes on the military will be examined in AY2000.

PUBLICATION:


CONFERENCE PRESENTATION:


THESIS DIRECTED:


DoD KEY TECHNOLOGY AREA: Manpower, Personnel, and Training

KEYWORDS: Leadership, Diversity Management


SYSTEMS MANAGEMENT


BOOKS

SYSTEMS MANAGEMENT


CONTRIBUTION TO BOOKS


TECHNICAL REPORTS


