

MASTER OF SCIENCE IN SYSTEMS ENGINEERING MANAGEMENT

TEST AND EVALUATION IN THE UNITED STATES NAVY, AND HOW IT MUST EVOLVE TO SUPPORT FUTURE SYSTEMS ACQUISITION

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Modern Test and Evaluation (T&E) has long supported acquisition of warfighting systems in the United States Navy. As the complexity and long-term supportability of these systems has dramatically increased, the need to successfully and incrementally test and evaluate families of systems, including their interfaces, has become even more critical. Long established techniques and methodologies for T&E may still apply, but new factors must be addressed. As the Navy continues to grapple with acquisition reform, and aims to transform itself in the future, the Warfighters' needs have essentially remained the same – delivery of the best, most effective weapons, as soon as possible, and made easy to operate and maintain. Without an equally effective developmental and operational test and evaluation process, the United States Navy cannot satisfy this need.

This thesis examines T&E today and where it must go in the future. It provides recommendations for T&E enhancements, and explores several areas where the Navy, and Joint Services, is already looking towards future, integrated and collaborative test and evaluation.

KEYWORDS: Test and Evaluation, Open Systems, Open Architecture, System Engineering, Engineering Discipline, AEGIS, AEGIS Weapon System

A QUALITATIVE ASSESSMENT AND ANALYSIS OF STAKEHOLDER EXPECTATIONS

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A Department of Defense acquisition program is influenced by a large number of external stakeholders, including operational users, oversight authorities, contractors and suppliers, and interfacing program managers. Key stakeholders will readily agree that meeting the Warfighting needs of operational users is the primary objective of an acquisition program, however, many stakeholders have developed their own strategies to achieve that goal. The job of the program manager within the acquisition system is to deliver a product that best meets stakeholder expectations (the right product delivered the right way). This research defines a methodology for eliciting strategic inputs from key stakeholders associated with an acquisition program. The methodology includes an environmental analysis leading to identification of key stakeholders and focus areas for stakeholder interviews. The methodology is applied to the Global Command and Control System-Maritime program to obtain stakeholder input targeted for future strategic plans.

KEYWORDS: C4I Systems Development, Product Development, Stakeholder Interview, Stakeholder Feedback

