

POSEIDON ON PATROL: A COMPREHENSIVE ANALYSIS OF THE U.S. NAVY P-8A PROGRAM



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Abstract

The P-8A Poseidon program represents the Navy's cutting-edge Maritime Patrol and Reconnaissance Aircraft (MPRA). A comprehensive analysis of the program is notably missing from the repertoire of acquisitions research. This work provides that missing comprehensive piece. This project includes an exploration of the P-8A program holistically from the earliest days of conceptualization through the present, as well as with an eye toward the future of the program.. The primary study finding is that, due to a variety of factors, the P-8A program is an overall acquisition success with various future opportunities for program growth and evolution. The results indicate that the P-8A program is one that other programs can model to achieve similar success.



Boeing P-8A Poseidon

Strengths	Weaknesses
<ul style="list-style-type: none">• Early prioritization of systems engineering (SE)• Iterative development• Evolutionary/upgradeable platform• Use of proven COTS airframe and engines• Interoperability• Multiple mission sets• Open architecture• Early systems integrated using GOTS systems from the P-3C• Robust integrated software• Focus on Human Systems Integration (HSI)• Robust training environment• Met or exceeded APB criteria	<ul style="list-style-type: none">• Program cost and schedule slips• Product support requirements• Tactical open mission system (TOMS) issues stopping missions
Opportunities	Threats
<ul style="list-style-type: none">• Software focus• Leverage artificial intelligence• Containerize software• Further integration into DMO	<ul style="list-style-type: none">• Budget• Availability• Survivability• HSI issues related to software upgrades

P-8A SWOT Analysis

Methods

- Case Study Methodology Used
- Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis Performed
- Root Cause Analysis Employed within SWOT

Results & Their Impact

- The P-8A Poseidon is an unparalleled Maritime Patrol and Reconnaissance Aircraft with Antisubmarine Warfare, Antisurface Warfare, Advanced Communications, Intelligence Surveillance, and Reconnaissance, and Search and Rescue capabilities.
- The program strengths referenced in the SWOT analysis enabled the platform to be fielded quickly and cost-effectively with incredible performance and ability to continue to evolve to meet future threats and grow within the frameworks of ever-changing national security strategies.
- Threats and weaknesses to the program have come to light but the program office has been quick to respond to many of those and to continually improve.
- The P-8A has many opportunities to improve software capabilities, leverage AI, further containerize software, and to further integrate into Distributed Maritime Operations.
- Due to the success of the program to date, and its demonstrated performance in the fleet, the P-8A provides an excellent case for other programs to reference to achieve similar success.
- This research, given its comprehensive nature, fills a literature gap that currently exists in the larger acquisitions research field.

Implications for Other Programs

- Model P-8A Program's software focus
- Build an accountable, innovative, growth focused program culture
- Implement training facilities, equipment, planning, and curriculum prior to fielding new platforms
- Early and continued focus on Systems Engineering
- Utilize iterative development, open architecture, and design for evolution when able

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