

Culture Change in the Navy

The DD-21 Destroyer Case

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The DD-21 case study is a program manager's course case that has been shortened for this article. The intent of its authors is for the case to be used to facilitate classroom discussion and not to illustrate either effective or ineffective handling of a situation. The original case study was written by James Carter, professor of acquisition management in the program manager's course at the Defense Acquisition University.

In the grey pre-dawn hours of a cold February 2001 morning, Navy Capt. Bill Hughes, the program manager for the ZUMWALT class Destroyer (DD-21), rifled through the correspondence piled on his desk at the Naval Sea Systems Command (NAVSEA) as he sent the following five-word e-mail to the director of the optimal manning program at Program Executive Office Surface Strike: *Reduce Manning! Repeat, Reduce Manning!*

The current principal theater surface combatants, the CG-47 Battle Cruisers and the DDG-51 Destroyers, were manned in excess of 300 sailors. The DD-21 was being designed for a crew of 95 officers and enlisted personnel. The viability of the DD-21 program itself was in serious jeopardy, as the new administration was expected to take a hard look at all defense programs. Hughes pondered the decision he faced. Should he let the Chief of Naval Operations (CNO) and his staff continue to communicate with the fleet, or should he proactively embark on a paradigm-changing effort of his own?

Revolution, Not Evolution

The DD-21 represented a revolution, not an evolution, in Navy shipboard customs, traditions, policies, and warfighting practices. Despite a well-defended budget and strong program sponsorship in the Pentagon, Hughes was dissatisfied with the less-than-enthusiastic support he was getting from the warfighters.

Hughes knew the fleet was waiting for answers to the major concern of all sailors: how they were going to fight and stay alive in this new warship. The CNO and staff had been engaged for several years in DD-21's manpower and



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automation studies and had been sharing the results extensively with the fleet commanders and the rank-and-file sailors.

Normally, the warfighters could be counted upon to zealously support a new shipbuilding program, but Hughes was alarmed at the lack of response to the CNO's communications initiatives. It appeared to him that few at the waterfront shared his sense of urgency for getting the DD-21 to sea. He wondered if anyone embraced his vision for the DD-21.

Looking ahead, Hughes started to plan for the program financial battles that he thought would begin in the next several weeks. He knew that he needed to have avid user sup-

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port to win those battles and save the program. The new administration was reviewing the DoD budget, and the White House had made it clear that the additional funding necessitated by the previous administration's neglect was in jeopardy. Furthermore, the new administration promised a tax cut. It was rumored that DD-21 and other high-dollar programs were going to finance the tax cut.

To be successful in the financial battles, Hughes needed to get strong user support for the DD-21, but the very features that made the ship so appealing to Pentagon leadership had the opposite effect on the fleet. The fleet commanders didn't believe that the DD-21 could be sailed with a crew of 95. The DDG-51—less complex than the DD-21—had a crew of more than 300.

The reduced-crew ship design relied on improved, automated information management. During combat, the ship's sensor systems would be able to detect an impact, hull breach, or fire and then would initiate fire suppression. Damage assessment would be automatically evaluated by diagnostics at the impact area. Damage estimates would then be forwarded to the command along with the status of all mission-critical systems. The replacement-parts list would be automatically verified and sent to the shore-based supply depot. If necessary, there would be video teleconferencing technical assist calls for questions surrounding mission-critical systems.

The ship's human-centric design focused on the sailors' quality of work and quality of life. Innovative plans included staterooms replacing 90-man berthing compartments; automated food service replacing mess-cooking duties; and improved design, material, and surface coatings to minimize chipping, hammering, and painting the ship.

Unique Acquisition Strategy

Industry was provided an overarching set of operational requirements and cost parameters instead of detailed design and performance specifications. The performance specification document for the DD-21 was only 52 pages. This less restrictive approach encouraged innovation and offered industry the maximum latitude to develop, build, deliver, and support a state-of-the-art, effective fighting ship. The paradigm change was as significant for prime contractors as it was for the Navy.

Two industry teams were competing for DD-21. Bath Iron Works (BIW) led the Blue Team, and Ingalls Shipbuilding, Inc. (ISI) led the Gold Team. The Blue and Gold Teams had the flexibility to trade costs within established goals and thresholds through the use of the cost as an independent variable (CAIV) process.

Hughes knew that he had to satisfy the users—the warfighters in the fleet. He needed their support or his

program would be dead in the water when the budget fights began.

What's the Solution? Two DAU Professors Respond

Anne Cofield:

The Navy utilized a streamlined acquisition approach for developing the prototypes because they wanted maximum innovation and creativity from industry. Competing industry teams guided by Navy researchers in human systems integration produced two prototype designs that featured advanced technology in hull design, propulsion, electrical distribution, weapons, sensors, software, and hardware. The fleet's natural skepticism regarding the new technology was further increased by the paradigm-breaking reduction of manning to 95 personnel.

Issues

The Request for Proposal provided an overarching set of operational requirements and cost parameters, not the usual detailed design and technical specifications. RFP requirements included a reduced manning goal of 95, thus using automation to replace sailors. A major stakeholder, the fleet, had operational/survivability concerns, and their support was tempered by their skepticism. They were not confident that a crew of 95 could fight the ship. Rumors of congressional and Pentagon budget cuts and the ensuing possible program cancellation elevated fleet suspicions. Reduced manning goals required a change in traditions and customs. This was resisted on the waterfront.

Decision Criteria

Hughes would need to select a course of action to bring about the needed paradigm change in naval customs and traditions; he would need to convince the fleet that the DD-21, as designed with its new concept of operations, would meet the operational requirements.

If I Were Hughes ...

If I were Hughes, I would get the word out to my trusted group of advisors that it was their job, as well as mine, to inform the fleet users/warfighters/stakeholders of the criticality of the reduced crew. Staff and stakeholders, armed with education and information, would feel—and genuinely be—ready to carry the communication ball. That's empowerment. Both would need to hear ground truth from the PM—that is that the DD-21, as designed, would replace obsolete legacy systems with automated systems, provide a higher level of mission-critical warfighting performance, and provide a substantially higher quality of life at sea for the crew.

Stakeholder briefings are intended to educate, inform, and eventually bring about a change of attitude among stakeholders. A change in stakeholder attitude would put the program in far better shape for the expected budget

battles and would encourage fence-sitters to ally themselves with the DD-21.

I would lead the education and informing of my stakeholders and various media organizations and not leave it to Office of the Chief of Naval Operations (OPNAV). I would do that with multiple in-person presentations up and down the chain of command, and media organization interviews and presentations on a continuous basis for as long as it took. I would recruit media to tell the DD-21 story.

Bob Steele:

Hughes was facing a three-headed monster as he moved forward. He would need to work on all three fronts simultaneously, engendering user support for the program, preparing for the budget battles ahead, and working to gain acceptance of an overall paradigm shift within the Navy to enable the proposed two-thirds reduction in crew size.

Issues

The most significant issue for Hughes was how to get the users' unqualified support for the program. Hughes would have no chance of winning the budget battles and keeping the program alive without grassroots support from the sailors. Because of the radical change from previous manning levels, there was understandable skepticism on the part of the users that the ship would actually be able to operate, fight, and survive. Breaking down the communication barrier between developers and users would be critical to successful defense of the program. The huge paradigm shift in standards of crew manning levels was a significant issue.

Decision Criteria

Level of user support was the most significant decision criterion and Hughes would need to focus on this. The key question would be what approach to use in mobilizing the users' support quickly and effectively, thus eliminating any doubt regarding his level of commitment to the user. Enthusiastic user support would enable Hughes and the program to effectively address the pending budget battles.

If I Were Hughes ...

If I were Hughes, in order to effectively address the program issues, I would take a two-pronged approach, while addressing the three separate concerns. I would proactively address both the user side of the problem and the budget battle issues.

First, I would need to improve the user involvement in the program. A series of technology demonstrations would show the users what they would get with the new ship. These demonstrations would prove that the ship could be effectively operated with a crew of 95. Along with these tech demos, I would get the program office

to demonstrate the advantages of human-centric ship design.

Focusing on the improved living and working conditions would engender a comfortable acceptance and would encourage greater support from the sailors. Along with these demonstrations, the program office would need to immediately make an effort to reach out and involve the user community directly in program activities, including requesting additional user involvement in integrated product teams and greater user representation at critical program meetings and reviews. This would show that the program office was intent on meeting the customer requirements and would gain the users' buy-in for the program.

Second, to address the financial concerns, I would prepare a fully supportable and justifiable budget. It would be of key importance to documenting the cost savings from the manning reductions. Such information could be presented as both an operational cost savings and a life cycle cost savings. Developing and quantifying the cost avoidance (personnel costs) would further justify and support the program. Clearly, having the sailors lined up to support the program would be essential. Proactively developing potential program de-scoping in association with the users would enable successful execution, improve communications, and ensure that customer needs continued to be met evenly with a potentially reduced funding line.

The DD-21 Case as a Teaching Tool

John Horn:

This case is about deciding how to implement a change in thoughts, beliefs, and culture of the mainstream Navy. Navy leadership and the CNO had a severe problem—not enough sailors to operate the fleet of Navy ships. They had two choices: reduce the number of ships, or reduce the number of sailors required to operate the ships. The CNO and his leadership team decided to reduce the number of personnel and instructed the research, development, and acquisition team to design all future ships with reduced manning.

This case puts the student in the position of the PM who was tasked to design the DD-21 destroyer with a crew of 95. The CNO dictated the change, but the vast majority of the warfighters didn't believe that operating a destroyer with a crew of 95 was possible. When discussing this case in the classroom, students would defend their decisions as to what they would do if they were the PM.

As the case teacher, I want students to struggle with how they would implement change both within their organizations and with their stakeholders if they, as PMs, were in a similar position. What specific actions would they take? I would open the discussion with a seemingly simple but actually very complex question: Is it Capt. Hughes'

responsibility to convince the fleet commanders to support the CNO's decision? Initially, most students would probably answer, "No" because the fleet commanders work for the CNO. But some students may argue that the program would not be successful without the commander's support; therefore, gaining that support would be the PM's responsibility.

During the dialog, I would ask the students the root-cause concern or issue for the warfighter, with the objective of engaging the students in a debate comparing the culture and focus of the warfighter with that of the Pentagon staff officers and/or program office personnel. I would ask such questions as: What is a successful program to the warfighter? What is a successful program to a PM? And to a Pentagon staff officer? Why are the objectives different for these three groups? These questions would help the students start considering the major components of culture: experience, viewpoint, and perception.

As you can see from the two professors' viewpoints, there are differences both in perception of the problem and the actions necessary to ensure program success. I would build upon these differences by asking this difficult question: What specific action(s) would you take to build user support? I would then ask my typical follow-on questions: Would that work? What are the consequences of that action? What would you do if your action has the opposite effect from what you expected? Using this questioning technique, I would attempt to highlight and promote debate between two or more factions. The more energized the discussion, the more likely that students would start asking each other tougher and tougher questions and thinking critically.

Facilitating a smooth transition to a discussion on changing the culture within the program management office might be a challenge, but a necessary one. It would be crucial to address how the students would implement change within their organizations. Using similar questions, I would spark a discussion or debate on whether their proposed actions would be effective or ineffective.

Most people will agree that the only certainty about change is that it will occur. So managers and leaders at all levels must deal with change. If a leader doesn't manage change, change will manage the leader; therefore, guiding through change is a key component of program management training. Cases such as this one provide the opportunity for future program managers to wrestle, in a safe classroom environment, with dilemmas and to develop critical leadership skills.

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there are some programs that are funded by the OSD for training and development—for example, the Defense Leadership and Management program and the Executive Leadership and Development program; however, most education, training, and career development are funded through the Services.

With already-strained DoD dollars, senior leadership will be forced to make extremely hard choices when determining how much funding they are able to allocate for the development of the current and future workforce. This has always been a challenge, and if history is a guide, when the budget is extremely tight (as it is now because we are at war), hiring, education, training, and career development funds are usually the first to be cut. But there is a difference now, compared to previous times, according to leaders like the five cited above: if human capital planning and management are not implemented, the federal civilian workforce is destined to enter into a crisis state in the near future.

Future Looks Bright

We are preparing for the future federal workforce. Senior leaders are not only paying attention, but are actively engaged in HCSP. In 2001, I initially became engaged in HCSP while working for the OUSD(AT&L) in the Office of Acquisition, Education, Training and Career Development. At that time, there was mention of HCSP, but to the best of my knowledge, very little action was being taken—not only in AT&L, but throughout DoD.

In spite of the challenges of determining how (or if) required funding will be allocated to properly implement HCSP, I still feel energized and inspired. Not only are people everywhere talking about HCSP, but analysis has been done; policy and guidance are being developed; programs are being put in place; and implementation is happening all over, on multiple levels. If we continue to move forward, it appears that the aging workforce crisis will not come about because actions are currently being taken to ensure that the right people with the right skill sets are being aligned with the right positions to ultimately satisfy the mission. Management tools, such as NSPS, are being implemented to assist managers in more appropriately running their organizations and accomplishing their missions.

Senior leaders have made it a priority to prepare for the future federal workforce, and we're seeing results with supporting metrics.

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