

A large helicopter is hoisting a person over the ocean at sunset. The helicopter is white with blue accents and is suspended in the air. A person is hanging from a rope attached to the helicopter. The background shows a sunset over the ocean with a second helicopter visible in the distance.

Opportunity Management

Return on Investment—
Realized

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The concept of opportunity management (OM) involves the identification and possible action on items that may improve a program. Due to conceptual similarities or programmatic convenience, an OM program (OMP) may be run in conjunction with an organization's more traditional risk management program (RMP). As in the standard DoD RMP (i.e., described in the Risk Management Guide for DoD Acquisition), the basic OMP measures the likelihood of a particular event. In contrast to an RMP, an OMP measures potential benefit of that particular event to its program versus the potential consequence as measured by an RMP.

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risk and opportunity management program. That program accelerated with the introduction of L-3's Risk and Opportunity Management Application (ROMA) software tool throughout the PMA-261 workforce. That software tool enabled the compilation of program risk, issue and opportunity information into one central database in an automated and user-friendly manner that provided the program team easy access to data as well as more meaningful and tailorable data reports.

Further, a clear and concise set of OM procedures was captured and distributed in a program-specific OM principles guidelines document. Developed with inputs from the entire PMA-261 IPT structure, the OM principles document has been embraced across the PMA-261 enterprise. Taken together, those two

Thus, both RMP and OMP may use a similar graphical tool for measurement and tracking: the risk or opportunity "cube." One measures likelihood versus consequence while the other provides likelihood versus benefit. Thus, the program team tasked to manage its risk posture may be given the additional task of opportunity management. Handling strategies for a given opportunity are different than those employed by a traditional RMP: An OMP exploits, shares, enhances or accepts a potential opportunity, while an RMP avoids, transfers, mitigates, or accepts program risks.

OM Implementation

An OMP may be implemented using a notional framework consisting of seven major steps:

- Empower your OM integrated product team (IPT).
- Identify opportunity candidates.
- Assess the opportunity candidate for advantages and disadvantages.
- Establish an implementation plan.
- Validate all assessments and plans.
- Maintain control/oversight.
- Communicate and document.

These steps can be used to formalize a structure for managing opportunities, should a program be willing to dedicate the resources necessary to achieving a return on investment in those opportunities.

The PMA-261 OM Program: Establishment

After a somewhat fitful start, PMA-261's insertion of an opportunity management segment into an already up-and-running risk program evolved into an institutionalized combined

products served as a catalyst that enabled a robust and productive OM program for PMA-261 and all its stakeholders, including the program's prime contractor, Sikorsky Aircraft Co. (SAC). The OMP leadership and execution responsibilities rest with the program's Joint Risk Management Board (JRMB), which handles both risks and opportunities, conducting normal business at monthly meetings.

The PMA-261 OM Program Scorecard: Return on Investment—Realized

By leveraging the already established levels of likelihood criteria from the risk program, PMA-261 formed one side of the opportunity "cube." (See Fig. 1.) This graphical tool was completed by creating the levels and types of benefit criteria: Scales were developed via allocation of benefit thresholds ("levels" 1 through 5) for each of the standard impact areas of cost, schedule and performance. Conceptually and graphically similar to the standard DoD risk cube, the PMA-261 opportunity cube served the standard scoring narrative of likelihood (probability) versus effect (i.e., benefit, should realization occur). A typical opportunity might be scored as: Likelihood 4, Benefit 5, Technical (i.e., L4B5 (T)), which translates into a highly likely probability that an opportunity will be realized, resulting in an exceptional increase in technical performance (see Figure 1 for a snapshot in time of the PMA-261 OMP cube and departure from the standard red, yellow, green risk color scheme). For opportunity management, that simplified scoring approach seems incomplete in today's austere fiscal environment, wherein program actions are likely scrutinized for any realizable "efficiency."

The opportunity scoring rubric may be enhanced by adding ROI to the OMP "scorecard." PMA-261 has, in effect, accom-

The concept of opportunity management (OM) has been developed over three previous *Defense AT&L* articles. The first article (“Should Opportunity Management Be Added to My Program’s Acquisition Strategy?” May-June 2007) described the basic OM concept in terms of “what” it is and the potential program benefits involved in the implementation of an OM process. The second article (“Opportunity Management: Deciding to Make it Part of Your Acquisition Strategy?” July-August 2007) developed the “how” of implementing a notional OM process, suggesting a framework of seven major steps. The OM process instituted by the CH-53 Heavy Lift Helicopters Program (PMA-261) served as a detailed implementation example in the third OM *Defense AT&L* article (“Opportunity Management Implementing a Positive Complement to Risk Management” January-February 2010); it provided a template that could be used to understand the requisite detail that it takes to execute an effective OM process.

plished that by providing expected program “value added” should an opportunity be realized; when possible, the value added is dollarized. The value added or ROI is judged by the JRMB as part of its standard monthly procedures: After opportunity identification, its owner provides the expected opportunity cost (the investment) and potential value added (the ROI) as well as the plan to realize the opportunity (including source of initial investment).

Typical of PMA-261’s approach to ROI for its OM program is its now closed “ballistic vulnerability testing” opportunity. Early in the CH-53K development program, the technical team realized that weapon system live fire test and evaluation (LFT&E) ballistic vulnerability testing was scheduled too late in the program to affect system component design; reschedule of the system test was eliminated as an option due to various program constraints and externalities.

The strategy chosen to offset potential problems that might be caused by LFT&E results that could not affect component design (i.e., adding extra armor to reduce vulnerability) was to seek opportunities to perform early ballistic vulnerability testing of system components, an approach not called for in the basic development program. Inputs from the owning IPT, including Sikorsky and the Weapons Survivability Laboratory (WSL) of the Naval Air Warfare Center, Weapons Division (NAWCWD), China Lake, Calif., led to an estimated \$800,000 to purchase the appropriate parts, conduct the test, and analyze the results. Potential benefits associated with the ability to affect component design were also identified: Weight avoidance associated with providing armor versus more robust components to achieve system level vulnerability requirements and the ability to affect the system level survivability model is a good example. Elimination of this potential need for armor evolved into an estimated maximum weight avoidance of 110 pounds (lbs); the standard PMA-261 weight

control and management plan metric for weight avoidance is \$100,000/lb. This one example illustrates how a program’s ability to provide an earlier and more accurate system-level survivability model could enable a better prediction of weapon system survivability (key performance parameter) by program preliminary design review (PDR), a user requirement.

Ultimately, the component ballistic vulnerability testing was conducted and results were positive: The addition of armor was avoided, and the survivability KPP was achieved. Approximately 100 lbs. of armor was not added to the CH-53K, avoiding approximately \$10 million in aircraft survivability costs. However, cost avoidance alone should not be considered the full opportunity ROI. Rather, there are other more intangible elements contributing to the overall ROI: User confidence in the weapon system was enhanced by a more accurate KPP prediction at PDR and perhaps most significantly, the warfighter will be delivered not only an aircraft that meets its survivability KPP but one that can lift an additional 100 lbs. of cargo to its intended recipients.

Another rewarding opportunity for the CH-53K program involved a cooperative effort between PMA-261 and SAC. Less than 18 months after opportunity initiation by the JRMB, funding was obtained and software was evaluated, tested, procured and installed at SAC for a CH-53K virtual reality simulation—a first for any SAC aircraft. (See Fig. 2.) This “reality” software simulation allows engineering and logistics personnel to prove out various production, assembly, support and maintainability processes. The virtual reality software can “accept” component software models to provide the engineer/user a reality simulation, including weight, fit, and feel of various designs; a “step inside” the model can be taken for rapid installation checks which, in turn, can serve to reduce the normal

Figure 1. Typical PMA-261 Opportunity Cube

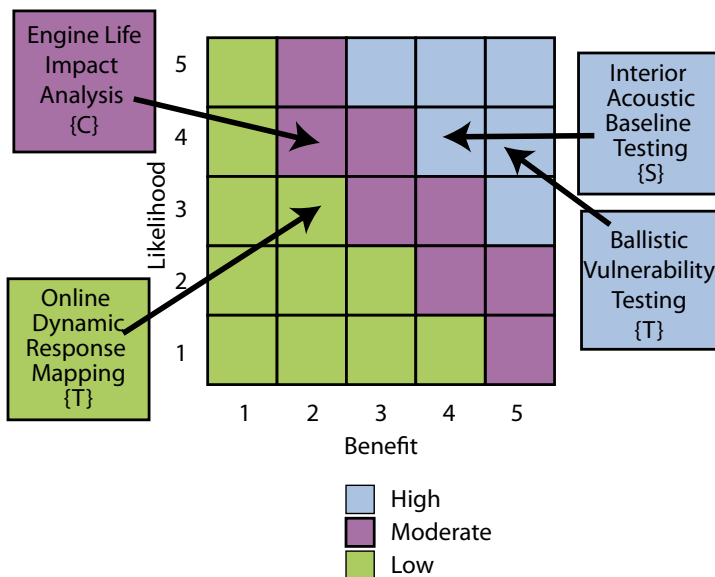
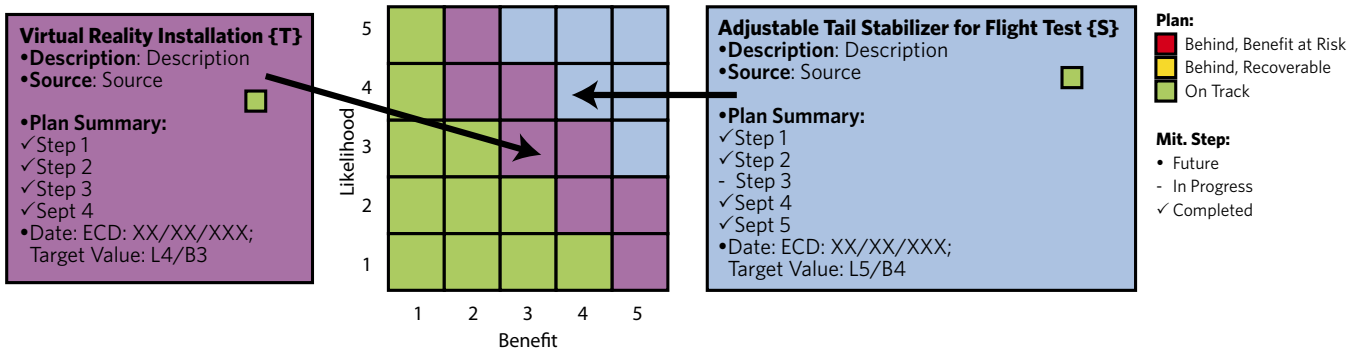


Figure 2. PMA-261 Executive Cube CH-53K Opportunities as of 12/1/2011



engineering change traffic of an aircraft development program. This approach obviates the more traditional need for multiple aircraft mock-ups. Four months after software installation, training was complete and the system was in use. The realized ROI for this \$1.4 million investment is estimated by the JRMB to be at least \$3 million.

A simpler CH-53K realized opportunity involved an engine life impact analysis to be conducted at multiple aircraft gross weights by the engine manufacturer. Originally considered prudent, the required approach utilizing multiple aircraft weights was reconsidered and, after approval obtained from the appropriate personnel, discarded as unnecessary. Instead, a single analysis at the maximum weight was conducted, saving the program approximately \$3.5 million, due to analyses not performed.

OM Benefits

PMA-261’s institutionalized combined risk and opportunity management program has captured significant program benefits, some of which would not have been realized without

the addition of the OMP. Additionally, the combined program was better equipped to rigorously scrub proposed additional program-level tasks found to require too great an initial investment, compared with estimated return. A robust OMP adds flexibility to the standard risk management approach: Program leadership may seize identified opportunities to not only provide the program with additional positive impact but to also help mitigate established risks. Program ROI can be realized, both measureable and intangible.

We believe OM is an extension of the disciplined SE approach. The CH-53K team is pushing beyond those traditional opportunities that help us recapture capability or avoid cost increases to the program to a state where real returns or cost savings can be realized. OM mindset has put this program team on the offensive. It’s an attitude of winning for the Marine Corps, which needs this capability, and the taxpayer who foots the bill.

OM can be a benefit in the management of not only technical risk, but cost risk as well. Case in point is PMA-261’s initiative to create an internal Program Cost and Affordability Team (PCAT) which use the program’s OM framework as a way to manage cost risks in support of their “should-cost” program analysis. The addition of the PCAT allows PMA-261 to focus on all areas of the program applicable to cost and use a structured methodology to manage this process to completion.

The evidence from PMA-261’s combined risk and opportunity management program indicates that positive impacts on cost, schedule and performance can be realized by investing the necessary resources to establish an opportunity management program. In today’s austere economic environment wherein every program action is scrutinized for maximum efficiency, taking advantage of opportunity management as a standard programmatic tool should be considered.

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