View from the Vices - Innovation

BCG Senior Advisors Bill Lescher, Joe Martin, and Stephen 'Seve' Wilson discuss innovation in the Department of Defense

The US Department of Defense (DoD) has long sought to improve its ability to innovate, working to harness the full breadth of capabilities available from industry and emerging technologies, while also reforming its internal structures and processes to develop transformational capabilities, address complex problems, and to bring creative solutions to the warfighter. In this podcast, three former Vice Chiefs from the Army, Navy, and Air Force share their experience with the challenges faced by the DoD at both the enterprise and service level, bringing a uniquely informed and authoritative view on what has worked well and what can be improved, and they discuss promising initiatives and technologies that will support innovation in defense.

Have DoD efforts to reform and improve innovation been effective?

- Innovation is associated with bringing velocity, scale, and affordability in delivering capability advantage – but there is an implementation problem in actually delivering the advantage to the warfighter. There is an innovation implementation deficiency in those three areas more than an invention shortcoming.

- The changes made by DoD in attempting to address the implementation problem have generally been positive but are insufficient. Ultimately, they have not significantly improved the DoD ability to harness innovation, particularly that offered by small to mid-size companies, while large OEM's remain incentivized to maintain trajectory as long as possible on current programs, making incremental improvements to their existing product lines. Of the Major Defense Acquisition Programs in FY2023, more than 40%are platforms or derived from platforms that entered development more than 25 years ago –some as far back as the 1950s.

- Leadership is taking steps, but they are not enough to close the innovation gap or correct foundational constraints, including limited incentives for taking risk in government or industry, including in the supplier base.

What initiatives have been successful?

- The Navy's Unmanned Task Force (UTF) and Task Force 59 demonstrated success in integrating the innovation pipeline from sourcing the problem to transition, executing 13 sprints in 85 weeks with strong results. The UTF approach has recently been expanded with its elevation as the Navy Disruptive Capabilities Office.

- The UTF attacked key elements of innovation friction, seeking to resolve the barriers that prevent matching velocity of action to velocity of learning by addressing financial and technical challenges with an effective team of teams approach.

- These types of successes are key to changing mindsets, creating the foundation to change people's underlying beliefs about how an organization works, about what's effective, and about what's rewarded. This is the seed corn of the required innovation culture change - changing underlying beliefs about how we work and what's effective.

- The Army's Rapid Capabilities and Critical Technologies Office (RCCTO) has enabled the Army to experiment, evolve, and deliver technologies in real time to address both urgent and emerging threats, while supporting the warfighter. In addition to allowing the Army to innovate during the campaigns in Iraq and Afghanistan, this organization has recently integrated several technologies in the Hypersonics and Directed Energy weapons programs.

What lessons can be learned from these?

- Having cross-functional teams staffed with technologists, operators, acquisition and contracting professionals, and budget experts is critical to attacking innovation friction. Not having the full range of stakeholders can impede the pace of development.

- Co-locating key team members, including material developers, engineers, and end users to rapidly test and find what works – and what doesn't – enables effective iteration and prototyping with much improved velocity.

- Empowering teams by giving them a clear line of authority to decision makers – which was a key success factor for both the Air Force Rapid Capabilities Office (RCO) and the Navy's UTF – enabling them to seek support or approval quickly when they need it.

- Emphasizing prudent risks, with the understanding that learning itself is a critical outcome, while also ensuring program managers are incentivized to do this, and that they are graded and assessed accordingly.

- Viewing failure as an outcome that accelerates learning and informs the solution, rather than a personal or program failure.

- Being radically transparent and embracing proven approaches for problem solving and collaboration. Advancing our culture to reflect high standards for each of these elements.

- Having access to senior warfighters and four-stars through every stage of the innovation pipeline ensures alignment with the warfighter's key operational problems, key to avoiding the Valley of Death.

- Winning support from key budget stakeholders, including Congressional oversight committees – by transparently showing them status/progress, explaining what is being done, and clearly articulating the vision – builds the trust that enables iteration, learning through failure, and positive long-term outcomes.

What are key challenges for the DoD right now –– and areas of promise?

- Rebalancing the Services' investment portfolio to be less focused on incremental improvement of existing capabilities. Historically, a large percentage of the Services' procurement and R&D accounts – as much as 90% in the Navy – has been allocated to incremental change of existing capability, which is not the right balance in the current technology and strategic environments.

- Ensuring leadership better understands emerging technology. DoD leadership has sometimes struggled to understand the capabilities of new technologies and the implications for how DoD operates, and often is not sure even of what questions to ask on how technologies can be transformative. A concerted effort to help leadership develop a better grasp on technologies ranging from quantum to hypersonics and to truly understand the implications will help.

- Removing obstacles that prevent emerging talent from succeeding. There is a fantastic talent pool of skilled people who want to help solve these challenges, and a key task for senior leaders is to remove obstacles to their success to prevent them from getting frustrated and taking their talents elsewhere.

- The opportunity to learn important lessons from the private sector. For example, the approach of certain venture capital firms, where they are consistently encouraging of innovation – even when declining to invest – can offer a lesson for the government in how to collaborate with industry partners in a more effective and strategic way.

- Modular open systems architecture offers a tremendous opportunity for platforms and systems to be upgraded and adapted at the speed of relevance, and to provide solutions to long standing problems related to vendor lock, IP rights etc.

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