



Preparing for Tomorrow's Threats: Overcoming Obstacles to Organize, Adapt, and Innovate

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Preparing for future threats is a vital concern for US strategists. Innovation is one way to confront the threats we may face in the future, but achieving innovation presents organizational, cultural, decision-making, and technological challenges. To help strategists and policy-makers navigate these obstacles, CNA's National Security Seminar (NSS) convened three experts to share their perspectives from their service at different offices within the Pentagon: General James T. Conway (US Marine Corps, ret.), the 34th Commandant of the Marine Corps; Dr. Jamie M. Morin, former Director of Cost Assessment and Program Evaluation (CAPE) at the Department of Defense; and Dr. Francis G. Hoffman, Distinguished Research Fellow at National Defense University, who was instrumental in authoring the 2018 National Defense Strategy (NDS). The discussion, moderated by CNA's Dr. Carter Malkasian, was divided into two parts: the first identified obstacles to innovation, and the second looked at how to overcome those obstacles. The event was recorded and is available [online](#).

Obstacles to innovation

Each speaker described various challenges and barriers to innovation, found both in the Department of Defense itself and within the wider defense industrial establishment.

General Conway underscored that innovation must contribute to the overall effectiveness of the joint force; must be feasible, interoperable and deployable across theaters; and must be timely—it cannot struggle through an endless development process. Proposals for innovation should be vetted against these standards. He noted that the barriers to innovation can be entirely legitimate—like “wickets” that must be passed through to ensure a project’s usefulness. He provided examples of large quantities of money being expended on poorly conceived innovation that failed either to come to fruition or to be useful to the force. General Conway, overall, underlined the need for practicality in the face of the inherent uncertainty involved in innovation.

Dr. Morin provided a theoretical framework to understand the primary bureaucratic and organizational challenges to innovation, illustrating the complexity and suboptimal outputs resulting from multiple layers of principal-agent problems that occur both hierarchically through the department as well as within the interactions of different service branches and offices. Each organizational unit, as well as each level of decision-making authority and task execution, has their own incentive structures and long-standing priorities that may conflict with higher level, mission-oriented goals for innovation. The focus on long-term development and acquisition means that commitments can last for generations, entailing significant status quo bias and risk aversion—which are coupled with similar dynamics playing out in the military-industrial complex. He also noted the vital role of the US Congress as a key exogenous factor

with a regular changing management problem, such that programmatic appropriations often fall victim to iterated distrust and conflicting ways of thinking about strategic goals.

Dr. Hoffman explained that innovation benefits from proper high-level planning, such as the NDS, but translating abstract plans into actual specific benchmarks can be difficult. He noted that the goals of the 2018 NDS, for example, are broadly being met but are in many ways not keeping pace with expectations. He noted that innovation is best executed when there is (1) a broad inter-service and politically supported consensus on threat, (2) an agreed-upon understanding of the appropriate time period for a given project's time to completion and integration into active capacities, and (3) finalized priorities regarding significant investments into new materiel and systems. He suggested that consensus on threat is now stable; however, both assessments of appropriate time windows and investment prioritization remain major stumbling blocks for new projects.

Overcoming obstacles to innovation

General Conway discussed how ongoing operations affect both readiness and the ability of a service to devote the necessary resources to retiring old force structure and introducing new force structure. He noted that ongoing operations were the "coin of the realm" at the level of service chiefs and combatant commanders, which would strongly influence the winding pathways to new generations of innovation and development for the US military. He highlighted the importance of the combatant commanders' assessments of what forces are needed at any moment. Key aspects of predicting the success of innovation in the coming years are the nature of near-term threats and the locations of active operations. General Conway also noted that the retirement of old force structures and creation of new ones often command great interest; however, such major changes are ultimately evolutionary processes that are lower priorities for service chiefs than the operational and political demands of active warfighting.

Asked whether it is possible to overcome innovation challenges in the next decade or two, or whether we must accept a suboptimal mix of new and legacy capabilities, Dr. Morin responded that any innovation will most likely end up being suboptimal. Arriving at a perfect or optimized degree of innovation infrastructure is unlikely given the massive bureaucratic hurdles and fundamental misalignment of incentives across such a sprawling organizational superstructure. Because decision-making at the Department of Defense will always have multiple utility functions, multiple principals, and many organizational layers, a linear solution to this sort of multidimensional problem is not likely and should not be the metric by which we judge successful innovation. Dr. Morin offered six recommendations to drive significant innovation:

1. Identify real operational challenges that are relevant at the strategic level;
2. Allow unusual or radical ideas to be explored in innovation offices (such as the Strategic Capabilities Office, the Defense Advanced Research Projects Agency (DARPA), or service labs), but do not count on a single risky solution to work;
3. Do not over-manage innovation, and be prepared to make hard choices after you have created space for new ideas;
4. Focus on managing the constraints and challenges to innovation. Previous generations of innovation and development were successes or failures for particular reasons—even if the

solutions may no longer be useful, it is useful to explore whether the constraints that were recognized and mitigated then still apply;

5. Maintain the flexibility to adapt, and never forget that speed to decision is important; and
6. Build institutional trust, and fight against the centripetal forces of wide societal distrust and atomization.

Dr. Hoffman noted three special barriers to innovation that must be understood:

1. The tyranny of past assessments and path dependence from prior victories;
2. The difficulty of changing organizational cultures; and
3. The overriding problem of the burden of proof for new ideas.

All of these elements combine to make innovation difficult to produce at the levels desired by decision-makers. He also pointed out the specific problems of procurement and acquisition models and institutionalizing processes of future planning, which have been successful in the past and will likely be even more necessary in the future. Development time periods, all three experts agreed, are far too long, and lengthy cycles for innovation on basic, non-major equipment need to be significantly cut. Achieving the flexibility to allow for different acquisition models is a difficult task, given organizational reticence to take risks with quicker processes that may result in potentially more uncertain outcomes.

Selected Q&A

The panelists also answered a number of questions from the audience. Responding to a question comparing business innovation to military innovation, Dr. Morin noted that, unlike business outputs, national security outputs are not expressed in terms of profit and cannot always be quantified precisely. He pointed out that the military needs to tolerate failure in its attempts at achieving excellence, rather than aiming for safer mediocrity. General Conway said that multitrack development and procurement systems can help bolster the services' risk tolerance. In that vein, Dr. Hoffman pointed to the need for innovation cycles to be shrunk towards seven-year increments, rather than 12–14 year periods, whenever possible. Finally, General Conway responded to a question about the futures group that he instituted during his tenure, saying that it was an effective means to think seriously about innovation, producing a number of counterintuitive areas of interest to watch for—including the rise of littoral populations, global migration patterns, water as a scarce resource, the danger of male underemployment for radicalization, and the way in which the US will deal with multipolarity.