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Tailored Interventions to Foster Acquisition Innovation: Piloting the Innovation Alliance Program

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Tailored Interventions to Foster Acquisition Innovation: Piloting the Innovation Alliance Program

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Abstract

A key challenge in the U.S. Department of Defense (DoD) is aligning, prioritizing, and adopting acquisition innovation. This research explores the underlying systemic pressures that both impede and enable innovation in the acquisition workforce and proposes a structured intervention program, the Innovation Alliance Program (IAP), aimed at promoting a healthy innovation culture. Piloted at the Department of the U.S. Air Force, the IAP develops capacity through training and strengthening the collaborative networks within the organization to enhance the scalability and adoption of innovative practices, which addresses a critical issue of promulgating micro-innovations for larger-scale impact across the DoD.

Keywords: Innovation in Acquisition; Acquisition Workforce

Introduction

The 2022 National Defense Strategy (NDS) underscores the need for the Department of Defense (DoD) to modernize its acquisition processes, emphasizing innovation and adaptability to meet evolving strategic demands. Facing rapidly evolving threats from near-peer adversaries such as China and Russia, the DoD must continuously adapt its acquisition system to remain operationally effective and mission-ready. Innovation enables acquisition professionals to respond with agility, ensuring that the DoD can deliver timely and effective solutions to support the warfighter.

Innovation is perhaps best understood as a set of behaviors that introduce novel tools, modify or reengineer existing processes, or hybrid efforts that integrate both (Girth et al., 2022). Innovation encompasses not only technological advancements, but also cultural and organizational changes aimed at creating public value and improving service delivery (Osborne & Brown, 2011). Public sector innovation often involves collaboration, co-creation, and experimentation within complex organizational settings to achieve increased administrative efficiency and effectiveness (Demircioglu & Audretsch, 2024). Yet, the pursuit of novel solutions in the public sector frequently collides with institutional norms that prioritize procedural compliance and status quo. This dynamic creates the "innovation–risk paradox" whereby public organizations are increasingly called upon to innovate to address complex social, economic, and national security challenges, yet the institutional environment often penalizes the very behaviors—experimentation, iteration, and failure tolerance—that innovation requires (Moynihan & Landuyt, 2009; Osborne & Brown, 2011).

Risk aversion in public agencies manifests through procedural rigidity, short-term performance pressures, and reluctance to deviate from established norms or practices, all of which can inhibit organizational learning and adaptive change (Kettl, 2015; Walker, 2006). However, the development of psychological safety, supportive leadership, and cross-functional collaboration can mitigate perceived risks (De Vries et al., 2016; Demircioglu & Audretsch, 2017). The challenge lies in constructing systems and cultures where risk-taking is encouraged and supported, rather than reflexively avoided.

The objective of this study was to uncover and mediate underlying systemic pressures on the acquisition workforce in the DoD that impede agility and innovative behaviors. A program of cohesive interventions is presented—the Innovation Alliance Program (IAP)—to address systemic factors to incentivize lasting behavioral and cultural changes to meet the NDS to block Russia and China and restore America's competitive edge.

Originally developed for safety-critical domains, components of the IAP were adapted and integrated for DoD acquisition. It provides a lightweight but analytically robust process that supports early identification of innovation, structured stakeholder dialogue, and data-driven refinement of implementation strategies. By embedding systems thinking into both assessment and design phases, the IAP enhances an organization's ability to scale locally developed solutions and overcome systemic barriers to innovation.

The IAP was piloted in collaboration with the Air Force Installation Contracting Center (AFICC) in two implementation phases. Employing the IAP's novel Systemic Contributors and Adaptations Diagramming (SCAD) interview technique (Walker et al., 2016; Jefferies et al., 2022), a current state analysis of innovation culture was conducted with AFICC. SCAD analysis revealed critical patterns of systemic pressures—including regulatory constraints, policy demands, and organizational norms, which impact the translation of DoD leadership intentions into actionable behaviors. Findings from this analysis suggest that these pressures, more than individual differences between analysts, contribute to inhibiting or facilitating innovative behaviors. While certain system attributes, such as a willingness to embrace failure and support

for organizational learning, can enhance innovative efforts, other pressures, such as stringent adherence to procedures and time constraints, inhibit innovation. The insights gained also highlight the importance of leadership support, aligning team goals, fostering internal and external collaboration, and granting autonomy to empower the acquisition workforce in overcoming barriers to innovation.

Another foundational element of the IAP is stress-testing innovations for scalability using the IMPActS framework (Fitzgerald, 2019) to design and revise interventions and address system attributes found critical to enabling successful innovative behaviors. The IMPActS framework captures the interdependencies of the Ideas behind the innovation (including its relationship to the systemic pressures noted above), Mental Model alignment, Pragmatics, availability of Actors, and resources to Sustain it. The framework was developed into a workshop to generate a lightweight, actionable method to deploy in practice (Balkin et al., 2024). Accelerating IMPActS workshops (AIWs) created a collaborative space for AFICC personnel to iterate on innovation interventions emerging from the SCAD interviews. AIWs are designed to increase stakeholder motivation to scale innovations, reduce the cost of risk-taking behaviors, while at the same time ensuring solutions are implementable and sustainable in the organization.

This research advances a practical approach for embedding innovation within the DoD by targeting the underlying systemic factors that shape individual behavior. Using novel tools (e.g., SCAD, AIW), the IAP creates a program for continuous monitoring, cultivating the conditions that enable innovation to take root and grow by supporting cultural transformation through sustained capacity building and organizational learning. The results presented provide a deeper understanding of persistent structural barriers in defense acquisition, as well as a model for strengthening and validating grassroots innovations for broader deployment. In doing so, it addresses a critical challenge in the DoD: How to ensure promising local innovations are not lost but instead matured and mobilized to create lasting, enterprise-wide impact.

Innovation Alliance Program

Developed by researchers at the Cognitive Systems Engineering Lab at The Ohio State University (OSU), the IAP is a tailored suite of techniques designed to elicit grounded insights into how individuals navigate complex, high-pressure work environments and create sustainable solutions. Originally applied in high-stakes safety domains such as commercial aviation and healthcare, the IAP has been adapted for use in DoD acquisition, where complexity and operational risk similarly demand a nuanced, systems-informed approaches to innovation. There are three core functions of the program, as illustrated in Figure 1:

1. A method for continuous monitoring to **identify** signals of barriers and facilitators to a healthy innovation culture using the lightweight SCAD interview technique.
2. A model and a tool to aid in the **interpretation** of the signals collected in the identification activities and target improvement efforts.
3. AIWs **implement** a codesign process to stress test high-potential innovations for supporting the transition of high potential ideas to improve their implementability and sustainability at increasing scale.

Figure 1. Innovation Alliance Program

SCAD

The SCAD interview technique is a novel approach to systems analysis, designed to reveal the often-hidden pressures and adaptive behaviors within complex organizational settings. Developed in response to the limitations of traditional event-driven methodologies like Root Cause Analysis (RCA) and Failure Modes and Effects Analysis (FMEA), SCAD focuses not on singular adverse events, but on the systemic pressures that shape day-to-day behavior across the organization (Jefferies et al., 2022). Rather than attributing deviation to individual factors or prescribing linear causal chains, SCAD collects and synthesizes frontline narratives that reveal how and why adaptations emerge in response to conflicting demands, resource constraints, and systemic tensions. This reorientation allows for generating a current state of an organization that is both diagnostic and prognostic—highlighting not only existing points of friction, but where future adaptations and breakdowns are likely to occur.

SCAD interviews are conducted by external researchers (e.g., OSU researchers) alongside internal domain experts (e.g., AFICC project leads). Interviews begin with a simple prompt: *Describe a time when work was done differently from the "textbook" approach.* Follow-up questions probe the systemic conditions that give rise to the adaptation. By treating each adaptation as a data point reflecting broader systemic dynamics, SCAD provides a high-resolution view into how people navigate their operational environment (Walker, 2021). The technique enables rapid insight generation at minimal cost and with limited training, proving especially effective in uncovering patterns of pressure and adaptation that would have remained opaque using conventional methods (Jefferies et al., 2022). This practical accessibility, paired with its systemic orientation, positions SCAD as a valuable tool for organizations seeking to move beyond a compliance mindset and toward transformation.

AIW

The AIW is a systems-based co-design method developed to improve the implementation and sustainment of organizational interventions in complex operational environments. It is grounded in the IMPActS Framework, which represents five key components essential for sustained implementation success: *Ideas*, *Mental Model Alignment*, *Pragmatics*, *Actors*, and *Sustainment* (Balkin et al., 2024; Fitzgerald, 2019). This framework is explicitly designed to address common pitfalls in intervention efforts, where promising initiatives experience early enthusiasm but ultimately fail due to misalignment across stakeholders, insufficient system capacity, or unaddressed contextual pressures (Fitzgerald, 2019; Nilsen & Bernhardsson, 2019). AIW provides a structured setting for stakeholders—including frontline personnel, managers, and researchers—to collaboratively assess candidate interventions against the five IMPActS dimensions, using both qualitative ratings and facilitated discussion to

identify system constraints, clarify assumptions, and redesign interventions for scalability (Balkin et al., 2024).

A central goal of the workshop is to proactively uncover barriers to implementation before they lead to intervention failure. Participants are trained in systems thinking and guided through structured discussions that generate novel insights, align mental models, and sharpen intervention designs using shared institutional knowledge and adaptive systems research (Girth et al., 2022; Woods, 2018). In doing so, the workshop moves beyond theoretical frameworks to serve as a practical decision-support tool, bridging the gap between high-level design and ground-level execution (Balkin et al., 2024). AIWs increase the likelihood of sustained success by anticipating misalignments and incorporating implementation requirements into the intervention itself, offering a lightweight yet high-value process.

See–Do–Teach Model

Critical to the success of the IAP is the development of internal capacity by employing the See–Do–Teach approach to organizational learning. The See–Do–Teach model illustrated in Figure 2 is a progressive framework designed to build internal capability for executing and sustaining the IAP (i.e., conducting and analyzing SCAD interviews and facilitating AIWs). The model, which is applied across the three core competencies of the IAP—identifying (e.g., conducting interviews), interpreting (e.g., analyzing data), and implementing (e.g., leading workshops)—guides participants through three stages of skill acquisition: **See**, where individuals observe and receive foundational training from OSU researchers; **Do**, where individuals begin actively conducting and interpreting research activities with support and coaching from OSU researchers; and **Teach**, where individuals train others and facilitate activities independently. The scaffolding approach ensures a structured transition from novice to expert and anchors knowledge transfer by building internal capacity to execute the program.

Figure 2. Innovation Alliance Program: See–Do–Teach Model

Methodology

The IAP was implemented in two phases at AFICC. The initial pilot of the SCAD and AIW components included 15 SCAD interviews and one AIW. The second phase implemented the IAP and included 10 interviews and two AIWs; in total, 25 SCAD interviews and three AIWs

were conducted with AFICC. Critical to the implementation of the IAP is collaboration between AFICC and OSU researchers. Embedded project leads at AFICC participated in weekly project meetings, identified participants for interviews and workshops, and participated in and ultimately conducted said interviews and workshops.

The OSU–AFICC team conducted semi-structured SCAD interviews with personnel at various levels, including leadership and the frontline workforce, illustrated in Table 1. Interviews were typically 1 hour in duration and were recorded and transcribed. Participant characteristics were de-identified to preserve confidentiality.

Table 1. SCAD Interview Participant Characteristics

Positions	Phase I	Phase II	Functions
Leadership (6)	Military (1) Civilian (4)	Military (0) Civilian (1)	Contracting (3) Program Management (3)
Frontline (19)	Military (5) Civilian (5)	Military (9) Civilian (0)	Contracting (19)

SCAD interviews began with a prompt to describe situations where the participant deviated from standard or "textbook" procedures, a hallmark of adaptive behavior. Probing questions then explore the contextual pressures, conflicts, and reasoning behind the deviation, enabling researchers to surface systemic dynamics that impede and facilitate innovative behavior. Employing the See–Do–Teach model, OSU researchers initially led interviews, training AFICC program leads as they observed the interview process, began participating in the interviews, and then led interviews at the end of the pilot period. Interviews were analyzed through iterative coding by trained researchers to identify patterns of pressure and adaptation.

Candidate innovations surfaced through the SCAD interviews, and promising innovations were identified by the AFICC project leads for AIWs. AIWs function as structured, participatory sessions designed to assess and refine candidate interventions prior to implementation. OSU researchers facilitated the workshops with participants drawn from various organizational levels at AFICC, including frontline personnel and supervisors. AIWs were 3 to 4 hours. The workshop opened with a brief training on the IMPActS framework and systems thinking. Participants then independently assessed proposed innovations using rating scales for each of the five IMPActS dimensions. These ratings are designed to elicit thoughtful judgments about an intervention's feasibility, alignment, and sustainability within the organizational system. Following the individual assessments, participants engaged in facilitated group discussions to explore divergent perspectives, clarify assumptions, and collaboratively refine the intervention design. Two AIWs were conducted online and one in-person; thus, they were designed to be pragmatic, utilizing either physical materials or digital collaboration platforms (e.g, Miro).

Results

Innovation: Initiating, Sustaining, Spreading

The initial objective of the research team was to examine how acquisition innovation manifests within the organization and to trace how it evolves and spreads. Drawing from the AFICC SCAD interviews, acquisition innovation included adaptive responses to emerging constraints, creative problem-solving, and context-sensitive decision-making within the bounds of complex acquisition systems. Interview data showed that innovation is primarily sustained through the voluntary, discretionary efforts of individuals, often undertaken in parallel with their regular duties. Instances of innovative behavior were observed across various hierarchical levels and geographic locations, yet there was minimal dissemination of these efforts beyond

the unit level, limiting opportunities for shared learning or scaling. Moreover, innovation tended to surface in response to acute, time-bound challenges, such as urgent mission demands, high-visibility projects, or situations requiring rapid remediation of issues related to schedule, cost, or quality.

Innovation was observed to progress through stages of *initiating, sustaining,* and *spreading* novel practices. As depicted in Figure 3, this trajectory begins with a state of "No Innovation," wherein individuals operate strictly within the parameters of standard procedures. The earliest departure from this baseline is the "One Time" phase, in which a novel idea, process, or technology is introduced and used a single time but is not retained or institutionalized. This form of innovation is typically reactive and constrained by systemic barriers such as procedural rigidity, time scarcity, or lack of leadership support.

Advancing beyond these ad hoc efforts, the "Locally Adopted" phase represents the sustained integration of innovative practices within a specific unit or organizational context. In this stage, personnel consistently apply new tools, processes, or methods to enhance acquisition effectiveness. The most advanced stage, "Globally Adapted," is marked by the successful identification, understanding, and transfer of these locally validated innovations to broader contexts across the organization. This stage requires mechanisms for recognizing emergent innovation, facilitating cross-unit learning, and reducing organizational friction. Each stage in this continuum is shaped by dynamic interactions between individual and institutional constraints, underscoring that innovation in DoD acquisition is less about isolated technological breakthroughs and more about the systemic conditions that enable novel practices to emerge, take root, and scale across the organization (Girth et al., 2022).

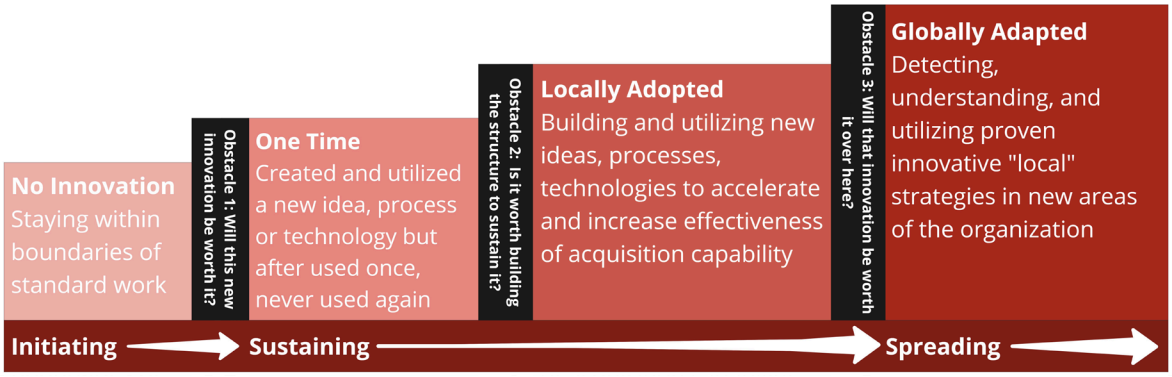

Figure 3. Innovation Continuum

The full value of innovation is only realized when its benefits are more broadly scaled. While localized or one-off innovations may offer immediate operational improvements, they fail to produce systemic change or address enterprise-level challenges if they remain siloed. This limitation reduces the return on investment in terms of time, labor, and institutional learning. When innovations are confined to specific units, other parts of the organization continue to experience inefficiencies or capability gaps that have already been solved elsewhere, resulting in duplication of effort, wasted resources, and lost opportunities for enhanced mission outcomes.

From an organizational perspective, the spread of innovation is essential to fostering institutional adaptability and resilience. When supported by leadership and institutional mechanisms, these grassroots innovations can be assessed for scalability and integrated more

broadly across the enterprise. Programs such as SPARK[1] illustrate how the right structures can translate isolated successes into systemic improvements.

Without mechanisms for identifying, evaluating, and transferring effective innovations, the DoD risks perpetuating fragmented improvements rather than building coherent, enterprise-wide advancements. Spreading innovation also enables the standardization of best practices, creates shared language and understanding across teams, and builds a culture that normalizes and rewards adaptive behavior. In a strategic environment where speed, integration, and agility are imperative for outpacing near-peer adversaries like China and Russia, diffusion of innovation is not merely a desirable outcome—it is an operational necessity (Girth et al., 2022).

SCAD

Acquisition innovation is shaped by the interaction between **system attributes**—organizational conditions that enable innovative behavior—and **system pressures** that constrain it. Key system attributes that emerged from the AFICC pilot include *organizational learning, internal and external collaboration, goal alignment, autonomy,* and *making room for failure and risk-taking.* These elements create fertile ground for experimentation, reflection, and sustained change. However, these conditions are frequently moderated or suppressed by system pressures such as *excessive workload, time scarcity, procedural rigidity, low prioritization of innovation,* and *limited resources*. Among these, *leadership support* emerges as a particularly potent **compound system pressure**, in that it amplifies or mitigates the effects of other pressures depending on how it is exercised.

System attributes were frequently moderated by a range of system pressures, which could either enable or erode the organizational conditions necessary for innovation. The most frequently reported pressures included *procedure, time, innovation prioritization, reputation, workload*, and *organizational relationships*. For example, procedural constraints were found to have dual effects: in some contexts, flexible interpretation of rules encouraged creative approaches, while in others, rigid adherence stifled initiative and reinforced rote behavior. Similarly, high workloads and time scarcity constrained personnel's willingness to engage in experimentation, as the perceived cost of failure translated directly into additional burdens, effectively disincentivizing risk-taking behaviors.

Table 2. System Attributes That Support Innovation

Attribute name	Definition	Participant count (total per phase)	
		Phase I (15)	Phase II (10)
Creating room for failure and risk	Organization encourages risks and creative solutions without fear of punishment for trying something new	7	4
Organizational learning	Supports institutional learning, keeps people up-to-date on new tools and methods, and uses past situations as a source of information	5	5
Collaboration	Organization facilitates collaboration internally and externally with other departments and industry partners throughout a project lifespan	5	7
Goal alignment	People and groups (moving horizontally and vertically through the organization) share the same goal and understand their role in reaching the goal	5	4
Autonomy	Organization allows people to have flexibility and freedom to complete work through their own means, less leadership involvement, and more personal authority over projects	3	5

[1] For more information on SPARK, see https://afwerx.com/divisions/spark/overview/

The SCAD analysis further elaborated on how certain pressures interact with one another to shape innovation outcomes. One particularly illustrative case is leadership turnover, which surfaced as a compound pressure influencing both goal alignment and momentum. While turnover often disrupted ongoing initiatives and introduced misalignment between incoming leaders and existing innovation efforts, some cases revealed a more positive dynamic: when leadership transitions were managed through explicit bridging mechanisms—such as outgoing leaders designating continuity agents or codifying innovation as a team priority—the disruptive effects were significantly mitigated. These bridging practices functioned as organizational "throughlines," allowing promising innovations to persist beyond the tenure of their original champions.

Table 3. System Pressures That Impede Innovation

Pressure name	Definition	How strengthens (+)/weakens (-) system attributes	Participant count (total per phase)	
			Phase I (15)	Phase II (10)
Procedure	Policies, processes, and regulations can both enable change (if not explicitly prohibited) or stifle it through rigid adherence	Organizational learning (+/-): (+) Reducing the number of rules encouraged critical thinking and development of new skills (-) Following protocol, everything is a checklist rather than an evaluation of foundational skills and education Autonomy (+): Procedures that allow flexibility of execution encourages individualized solutions to problems Room for failure (-): Protocol provides a comfort zone that people fall back onto rather than attempting something risky	7	7
Time	The urgency to complete tasks quickly often reinforces the status quo, but crises or complex problems can accelerate creative problem-solving	Organizational learning (-): Desire to go fast leads to reliance on current/old procedures Collaboration (+): Need for results in a strict timeframe encourages collaboration and communication	6	8
Innovation prioritization	Reflects how an organization signals its commitment to innovation through resource allocation, messaging, policies, and support structures	Organizational learning (+/-): (+) Leads to developing critical thinking skills and seeking new information on improving current practices (-) Prioritizing innovation increases options, which can lead to an overwhelming amount of new information Goal alignment (-): The people working have a primary goal of getting work done, and if innovation is overly prioritized it gets in the way of that goal Room for failure (+): The desire to innovate allows more risks to be taken and boundaries to be pushed	4	5
Workload	When there is a mismatch between work demands and available resources, making it difficult for employees to support one another	Organizational learning (-): With high workload, additional dissemination and educational tasks are a burden and take a lower priority Room for failure(-): High workload decreases desire to take risks because a failed risk adds more work	3	5
Budget constraint	Lack of financial resources to execute	Goal alignment (-): Unknown budgetary restrictions disrupt ability to align intentions	3	4

	and impede ability to attract vendors			
Turnover	Particularly among enlisted personnel, disrupts momentum and can lead to employees delaying adoption of innovations in anticipation of leadership changes	Organizational learning (-): Rotating individuals through does not develop experts with a deep understanding of foundational skills Organizational learning (+): However, rotational programs increase the variety of perspectives and experiences the rotating individual gets to learn from and then take back to their team. Some practitioners also suggest this rotation and variety of perspectives (+) increases the willingness to try new ideas and take risks. Collaboration (-): Constant rotation of people does not support consistent collaboration Goal alignment (-): When people leave the project, it's hard to get a replacement with similar goals and enthusiasm about the project Goal alignment (+) When the originator of an innovation leaves the team, leadership or another team member acts as a throughline for an innovation, orchestrating the handoff and providing ongoing momentum.	3	4
Reliance on routines	Reinforces existing work habits, often making newer employees more open to change while longer-tenured members of the workforce may resist adopting new practices	Organizational learning (-): Becoming reliant on routine decreases the ability to embrace new information and processes Room for failure (-): People get attached to their way of doing things and create an environment that devalues trying new ideas	3	4
Political exposure	Increased scrutiny in public sector leads to risk aversion	Room for failure (-): Backlash and public scrutiny make people wary of attempting new ideas in the future	2	4
Reputation	Worrying about personal reputation if take risk and fail	Room for failure (-): Fear of damaging their reputation and hurting their career makes people less inclined to take risks and try new things	2	7
External events	Exogenous factors that force change	Organizational learning (+): External events push people to learn new ways of dealing with situations and can be applied to future scenarios	2	4
Organizational relationships	Quality of the relationship—at odds or strong working relationship	Collaboration (+/-): (+) Good relationships increase the likelihood for future collaboration (-) Strained relationships and lack of desire for communication decreases ability to collaborate	2	6

Leaders who provide "top cover" for experimentation, model openness to uncertainty, and align authority with responsibility foster autonomy and resilience in their teams. These leaders were consistently cited as enablers of innovation. Conversely, leaders who were perceived to lack alignment with team goals, failed to delegate authority, or signaled low tolerance for deviation from established norms (whether overtly or in their aggregate response to previous events) were seen as significant barriers to sustained innovation. The SCAD findings illustrate that leadership behavior is not merely a contextual variable but a central force in sustaining or suppressing innovation within the acquisition workforce.

Table 4. Leadership Support Pressures That Influence Innovation Behaviors

Leadership support	Definition	Incidence count (Phase II only)
Availability	Leaders are available/accessible to their team, encouraging them to find solutions but providing support when needed	3
Feedback	Getting more frequent feedback from leadership and customers creates opportunities to (a) realign goals across levels, (b) address and learn from issues, and (c) generate new insights and innovations	2
Openness	Leadership makes it "okay" not to know everything. They encourage people to ask questions and share knowledge to enable a culture of openness to learning. Leaders provide "top cover" for teams and individuals experimenting with innovative solutions	3
Bridging	When the originator of an innovation leaves the team, leadership or another team member acts as a throughline for an innovation, orchestrating the handoff and providing the ongoing momentum	4
Accounting for trade-offs	Goal alignment specifically on the risk versus reward trade-off is important to getting an innovation off the ground	3
Authority–responsibility alignment	Allowing people to have flexibility and freedom to complete work they are responsible for through their own means (i.e., more personal authority over work)	6
Goal alignment	One person in the right position of authority who does not share common goals can stop an innovation in its track	4
Incoming orientation toward innovation	A change in leadership greatly impacts the goals and innovation capability of the team: (+) New leaders who have a desire to innovate can create an environment that allows more risks to be taken and boundaries to be pushed (-) New leaders who prioritize status quo can halt previously developed innovations as new ideas	3

Taken together, these findings suggest that fostering innovation in DoD acquisition is not merely a matter of individual initiative or isolated process change. The SCAD methodology proves especially effective in uncovering these interactions, offering a diagnostic lens that provides a more nuanced understanding of how innovation behaviors are supported—or undermined—by the organizational environment.

AIW

Drawing on qualitative data from SCAD interviews and other innovation signals within AFICC, the research team employed the IMPActS framework—Ideas, Mental Model Alignment, Pragmatics, Actors, and Sustainment—to assess whether interventions are likely to be successfully implemented and sustained. Three AIWs were conducted across both pilot phases, demonstrating a structured and replicable process for evaluating and refining candidate interventions by integrating systems thinking at the design stage. Participants consistently emphasized the framework's utility in guiding design-phase discussions, promoting reflective dialogue, and surfacing latent implementation challenges. Participants reported that the IMPActS process enabled convergence of diverse perspectives, identification of potential barriers, and refinement of interventions in ways that would have been difficult to achieve through less structured methods.

One of the most salient themes to emerge from the AIWs was the emphasis on *aligning stakeholder mental models*. Participants described the structured discussion format as

instrumental in clarifying assumptions and revealing misalignments in how interventions were understood across roles. This alignment process was viewed as foundational not only to the design of the intervention but to its long-term viability in a dynamic operational environment. Another key insight was the distinction between initiating and sustaining innovation. Participants found the *sustainment* dimension particularly valuable, as it highlighted anticipating downstream resource demands, institutional support structures, and long-term stakeholder engagement. This concern aligns with broader implementation science findings emphasizing that the mechanisms enabling adoption are often distinct from those required for ongoing execution (Lewis et al., 2022; Proctor et al., 2011).

The first AIW revealed the intrinsic value of the framework itself. Participants described it as "lightweight" yet "high value," capable of catalyzing strategic dialogue in environments with limited bandwidth and high operational tempo. Feedback emphasized that the process would not be difficult to justify to leadership—an essential factor for adoption within hierarchical organizations like the DoD. The second two workshops added a complementary component focused on identifying practical mitigations and mobilizing resources in response to assessment results. This evolution reflects the recognition that assessment alone is insufficient; successful implementation also requires structured planning for action and coordination. Importantly, the two later workshops explored sourcing interventions not only from SCAD interviews but also from emergent opportunities within innovation communities, such as the Innovation Rodeos and the internal AFICC Crosstalk meetings for innovation sharing.[2]

Ultimately, participants reported that the AIW gave them a sense of ownership and agency over the redesign process and greater confidence in the proposed interventions. The AIW structure successfully supported cross-role collaboration, clarified implementation trade-offs, and enhanced foresight around systems-level risks and requirements. These findings underscore the framework's value as both a diagnostic and generative tool, capable of improving intervention quality and increasing the likelihood of scalable, enterprise-wide adoption.

Discussion

This study was designed to pilot the IAP, enhancing AFICC's innovation culture with practical, scalable tools that allow for monitoring, supporting, and propagating innovative practices throughout its workforce. Rather than viewing innovation as a sporadic or personality-driven endeavor, this research used a systems approach to identify and respond to emerging barriers or enablers in real time. The methodology supports both top-down strategy and bottom-up experimentation, fostering an environment where promising ideas can be adapted and scaled across varying operational levels.

AFICC has a collaborative, capable, and motivated workforce in the innovation ecosystem. However, the analysis reveals several persistent challenges that could limit the sustainment and spread of innovative behaviors. Chief among these is the issue of time and workload. Although participants express strong interest in contributing to innovation initiatives, they consistently report a lack of capacity to support implementation efforts beyond initial engagement. Initiatives demanding sustained participation or project ownership often falter due to competing responsibilities and limited bandwidth. The lack of clearly allocated time and responsibility for innovation advocates constrains the effectiveness of the organization, whereas institutionalization of the IAP can create innovation leaders throughout the organization to redistribute workload and explicitly assign authority and responsibility. Ironically, innovative

[2] For more information on Innovation Rodeo, see https://www.afimsc.af.mil/innovationrodeo/

activities that could result in better long-term time and resource management are deprioritized or abandoned because of short-term time and resource demands.

In addition to time constraints, innovation at scale requires adequate financial and structural support. Participants highlight the difficulty of preparing grassroots innovations—often developed with minimal resources—for wider adoption. Transitioning from a local pilot to an enterprise-level solution frequently necessitates new materials, expanded technical infrastructure, or additional staffing, few of which are readily available under current resourcing models. The cross-functional nature of many high-value innovations introduces ambiguity about who holds the authority and the budget to support broader implementation. Without a formalized mechanism for cross-cutting resource allocation, these innovations risk stagnation at the local level, unable to realize their full potential within the enterprise.

Fostering a culture of innovation—one that encourages calculated risk-taking, supports organizational learning, promotes alignment across teams, and grants autonomy—is essential for sustainable transformation. Leaders play a pivotal role in cultivating this environment by providing top cover for experimentation, aligning incentives, and acting as champions for promising innovations. The data from this study underscores that innovation is not simply a function of individual creativity or motivation, but a product of deliberate organizational design and leadership commitment.

Conclusion

This study demonstrates that in everyday work there are high-potential grassroots innovation interventions being developed by the acquisition workforce at a local level to quickly and effectively solve problems encountered. However, to benefit from and amplify this innovative behavior, the organization needs to (1) assess innovations as they emerge to determine their scalability and overcome or mitigate systemic barriers that hinder broader adoption and (2) dynamically prioritize those that it will foster and proliferate, and (3) provide resources to support the transition from local to global interventions.

By addressing the identified systemic contributors, the IAP aims to promote lasting behavior changes that support a culture of innovation within the DoD through continuous monitoring and capacity building using our novel SCAD and IMPActS tools. This research not only contributes to the understanding of the systemic barriers to innovation in DoD acquisition but also offers actionable recommendations for developing an adaptive, resilient workforce. It provides a lightweight, adaptable model for stress testing and strengthening innovations for larger-scale deployment across the DoD, addressing the issue of micro-innovation that is high-potential but fails to launch beyond an individual or localized unit.

In sum, acquisition innovation is not optional; rather, it is foundational to modernizing defense acquisition. By using the IAP to identify and enable the conditions that support innovative behaviors, leadership can ensure that the acquisition enterprise is capable of accelerating change when it matters most.

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