

The Role of
**Experimentation
Campaigns**
in the Air Force
Innovation Life Cycle

An abstract graphic on the right side of the report cover. It features a series of overlapping, semi-transparent circles in shades of blue, green, and orange. A central horizontal line with several small black dots passes through the center of the circles. The background is a light blue gradient with a subtle pattern of small white dots.

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<https://www.nap.edu/catalog/23676/the-role-of-experimentation-campaigns-in-the-air-force-innovation-life-cycle>

SUMMARY BRIEFING BY
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Best Practices

Current Air Force Practices

Bridging The Gaps

Finding 1

There is too little **space, time, and funding** for experimentation-driven innovation in today's Air Force.

QUOTE

“...these examples illustrate pockets of innovation and experimentation in the Air Force... [but] they do not represent widespread innovation...

...a core concern of this report is the need for the USAF to suffuse innovation throughout the Air Force culture...”

Finding 2

**Well-designed and executed
experimentation campaigns are
critically important drivers of
innovation.**

QUOTE

“Experimentation campaigns are nothing more than a logical plan for sequencing efforts intended to answer key questions...

...improving the ratio of knowledge-to-assumptions as cheaply and quickly as possible.”

Finding 3

When it comes to experimentation, a **fear of failure** is crippling the Air Force today.

QUOTE

“In fact, disappointing results are so fundamental to progress in innovation that the committee tries to avoid calling them failures.”

Finding 4

Dedicated leadership in the form of “**Innovation Catalysts**” is the essential foundation on which innovation through experimentation must be built, a foundation largely missing in today’s Air Force.

QUOTE

“... a clearly identified Innovation Catalyst was the single most consistent practice observed by the committee.”

Finding 5

The **tools and processes** essential to Air Force success with innovation through experimentation are not in place.

QUOTE

“... a sandbox is a safe place for the small groups to test out innovative ideas and safely carry out much-needed experimentation campaigns.”

Finding 6

Metrics need to be carefully tailored to specific situations or they can do tremendous **harm**.

QUOTE

“... it did not find a common set of metrics in use across any of the highly innovative organizations it studied.

... the single biggest finding of the committee’s research here may be the need for caution.”

Finding 7

The **culture** in today's Air Force is not one supportive of widespread experimentation, especially those leading toward disruptive innovation.

QUOTE

“Air Force personnel currently receive mixed messages about experimentation-driven innovation.”

RECOMMENDATION 1

The Air Force should determine where it most critically needs innovation and establish Innovation Catalysts to help drive experimentation and innovation in those areas.

RECOMMENDATION 2

Wherever they are established, the Innovation Catalysts should be directly linked to their senior leadership.

RECOMMENDATION 3

Air Force leadership should move proactively to create organizational space for experimental-driven innovation.

RECOMMENDATION 4

The Innovation Catalyst should establish a portfolio of proven management **tools and **disciplined approaches** for experimentation based on established best practices.**

RECOMMENDATION 5

The Air Force should carefully and cautiously consider metrics, as bad metrics could quickly derail any effort to stimulate greater experimentation and innovation

RECOMMENDATION 6

Senior leaders should establish a clearer set of **messages and incentives** encouraging a culture of experimentation and risk-taking.