SQUADRON OFFICER COLLEGE
AIR UNIVERSITY

A REVITALIZED USAF CULTURE OF INNOVATION

By

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INTRODUCTION

From its inception, the United States Air Force (USAF) has always been on the leading edge of technological innovation in the military and has consistently challenged the status quo in order to maintain global dominance throughout the 20th century. However, since the end of the Cold War, new realities have challenged our ability to maintain the innovative edge. The combined stresses of global operations and tight budgets have constrained the resources and manpower available to advance enterprise-wide process reinvention, workplace improvement, and a culture of innovation. In the post-Cold War era, institutional barriers to innovation in the Air Force have emerged, such as lack of a central focal point for idea development, mixed marketing for and communication between existing programs, and inconsistent incentives to standardize and disseminate innovative processes throughout the USAF.

The Air Force has valuable programs in place to encourage critical thinking among our Airmen on confronting organizational challenges such as the “Every Dollar Counts” campaign, Air Force Smart Operations for the 21st Century (AFSO21), and the Air Force Global Strike Command’s Strike Now program. However, these programs are independent and do not share submitted ideas. First, we propose a new Innovation Office (IO) to integrate these resources to capture ideas in one location and tap larger economies of scale. The new office would be an installation-level entity tasked with organizing and vetting process improvements, overseeing “think tanks” and sabbaticals, and sending recommendations directly to the senior leaders. Finally, the IO would be headed by a Chief Innovation Officer (CINO) who is outside the chain of command and accountable for pushing a culture of innovation throughout the USAF, starting at the installation-level.
RESEARCH METHODOLOGY

In conducting research for this paper, our team relied on peer-reviewed journal articles, Air University papers and publications, and relevant news stories on current events reported in major publications. Additionally, we solicited personal inputs from senior leadership on-site at Air University and Squadron Officer College to guide the direction of our research. Our research placed an emphasis on finding the root causes for the identified barriers to innovation in the Air Force, assessing innovation best practices from industry, and identifying realistic solutions to change the culture throughout the Air Force.

BACKGROUND

From the Wright Brothers’ historic flight at Kitty Hawk to the groundbreaking systems developed by General Bernard A. Schriever’s Western Development division, the USAF has held the innovative edge in military technologies for much of the 20th century. The United States’ superiority in technological innovation and the associated economic development were central to the fall of the Soviet Union and the end of the Cold War. However, since the end of the Cold War, the once generous defense budgets and our capacity to pursue long term and experimental programs have diminished. The result has been stagnation in the climate of innovation.

Today, the enduring operational stresses from operations in Iraq and Afghanistan and the uncertainty produced by ongoing fiscal constraints require a new military and USAF structure to meet 21st century challenges. Secretary of Defense Chuck Hagel reemphasized the need to restructure in the following six key areas: institutional reform, force planning, preparing for a

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prolonged military readiness challenge, protecting investments in emerging capabilities, balancing capacity and capability across the services, and balancing personnel responsibilities with a sustainable compensation policy.² To move in this direction, leaders must encourage a culture of innovation in the USAF. Dave Power, the President of Power Strategy, a company dedicated to growing companies through strategy, alignment, and execution, identified leadership as a key component: “Unless the CEO makes innovation a priority, it won’t happen. Innovation requires a level of risk-taking and failure that’s impossible without executive air cover.”³ The proposals outlined in this paper provide options for leaders trying to enact change. Overall, we need to close the loop on idea generation, development, and implementation, specifically in the following ways:

1) First, we propose integrating existing innovation programs in order to generate and capture ideas in one location. Furthermore, we should complement this by enhancing the availability and marketing of existing career broadening programs and intermediate developmental education opportunities.

2) Second, the IO should provide structure & resources to develop ideas across the force. We propose facilitating a new sabbatical program, more cross-functional training, and installation-level Innovation Councils run by the new IO.


3) Finally, by placing the office outside the chain of command, we seek to create momentum for implementing positive changes in the status quo. The IO would be headed by a Chief Innovation Officer (CINO), structured similarly to a base Chief of Safety, and oversee a staff responsible for working with Airmen to craft proposals for change.

FORWARD MOMENTUM: A NEW OFFICE OF INNOVATION

The first step toward institutionalizing a culture of innovation is to create an Innovation Office (IO) at the wing (or equivalent) level. This office would be responsible for 1) facilitating innovation projects at that unit; 2) overseeing the newly established “Innovation Sabbatical” program; and 3) capturing industry and USAF collaboration to foster innovation across communities. Such an office is necessary to lend political capital and resources to the AFSO21 process and enhance application across the USAF.

To lead the IO, a Chief Innovation Officer (CINO) would be appointed from within the wing. In order to work more effectively with the Chain of Command, the IO would become one of the wing staff agencies and the CINO would report directly to the wing commander. In addition to the CINO, the wing commander would select the remaining permanent members of the IO staff in coordination with squadron commanders, group commanders, and the CINO. Members would have experience in innovation through programs such as EWI, the Logistics Career Broadening Program (LCBP), and military-industry IDE programs. Members would be selected from all ranks and a one-year tour length would be desired in order to reduce loss of productivity due to frequent turnover. In addition to the permanent members of the IO staff, each squadron would have an innovation representative (most likely an additional duty for a company grade officer) who would work closely with the base IO to catalyze innovation ideas,
coordinate with subject matter experts (SMEs) on a given topic, and promote innovation within a squadron.

The responsibilities within an IO would be:

1. **Base Level Innovation Coordination** – Oversees base level innovation events/projects and assists squadron level POCs as needed. Coordinates efforts across squadrons when able.

2. **Innovation Professional Development Coordination** – Oversees Innovation Sabbatical participation and assists with application packages, as well as mentoring participants with ongoing projects.

3. **Tiger Teams & Innovation Councils** – Work closely with community and industry leaders to foster successful relationships, which promote innovation across all disciplines as well as promoting innovation events and summits.

4. **Miscellaneous issues/tasks as required** – Established by CINO with guidance from the wing commander.

By creating a new office, there would be a consistent, available platform for developing innovation rather than a series of ad hoc efforts. Often the patchworks of USAF innovation programs solicit undeveloped, poor quality ideas and provide little support beyond the initial submission (see the example of the Every Dollar Counts Campaign later on in this paper). The IO would promote open and unpressured brainstorming in a non-retrogression environment and would put resources into developing ideas that have potential. These ideas would be captured in a database similar to the Joint Lessons Learned Information System (JLISS).

When any individual has an innovative idea, they would submit it to their unit’s innovation representative. From there, the representative would then help the individual research, consolidate and organize their idea into a presentable product, which could then be passed to the
IO. Upon receipt, the IO would pull together the individual with the original idea, their unit innovation rep, other unit reps, the IO staff, and SMEs to create a base-wide ‘think tank’ to help grow the idea. This process focuses on generating robust and clearly presented ideas that the individual, with the support of the CINO, could present to the senior leadership, such as the wing or base commander and relevant organizations. This process takes a simple idea from even the lowest levels and helps mature it into an actionable project without forcing innovation through mandatory events, quotas, or steps.

One barrier frequently encountered by innovative Airmen is a lack of time and resources to rethink complex, large-scale processes and fully develop their solutions. A sabbatical program would address this need. While there is little history of sabbaticals in the military, and none specifically in the Air Force, they are a powerful tool in the academic world for allowing intelligent scholars to focus on complex, time-intensive projects. To bring this valuable instrument into the USAF, the USAF needs a platform like the IO to structure and support such a program. As a case study, the United States Navy enacted the Career Intermission Pilot Program (CIPP) in 2009 to allow select officers and enlisted members to pursue difficult, near-term goals while still providing a means to re-enter the Navy. This program has permitted selected members to pursue advanced degrees at prestigious institutions, get valuable civilian workforce training, or simply focus on family matters for up to three years at a time. However, this program is simply designed to give sailors time off at 1/15 of their base pay while they are pursuing their goals.4 We propose USAF sabbaticals, of various lengths, to be approved on a

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case-by-case basis, for Airmen to pursue research projects and innovative ideas that will produce cost-saving results.

Each wing representative would have a method to advertise the availability of the sabbatical program—named the “Air Force Innovation Sabbatical Program” (AFISP)—in order to garner interest and competition among airmen. AFISP would be open to any airman in any career field with an innovative idea. It is important to include as broad a cross-section of personnel as possible, as excluding one career field or requiring a minimum rank could reduce the number of actionable ideas and, ultimately, money saved by the Air Force. These ideas could be as simple as changing a process that would result in immediate tangible cost savings or as complex as an actionable change in wider USAF culture. The only restriction proposed by this paper is to limit selection to members that are approaching a PCS/PCA in 4-8 months, as they would take their sabbatical between assignments. This would avoid commanders having to choose between developing a subordinate and losing manpower. Members would submit their ideas in a standard format to the innovation office, which would then review each submission. The innovation office would identify the cost-saving proposals with the most potential for selection and send to them AFPC to build into the member’s next movement. For additional details on the proposed structure of this program, see Appendix A.

EDUCATING FOR INNOVATION: EDUCATIONAL POLICY REFORMS

In an era of rapidly changing global dynamics, the USAF must continue its legacy of innovation not only in day-to-day operations, but also in how we develop our Airmen. The USAF must support developmental programs and education aimed at promoting exchange with industry and fostering a culture of innovative thinking.
First, we must enhance on-site cross-functional education to harness the skills and education already present within our organizations. Jeff Plumber, a Software Project Lead, Software Architect, and Innovation Evangelist at General Dynamics C4 Systems, outlines methods of fostering a culture of innovation utilized by his own company with a high level of success.5 By adopting a bottom-up approach, his company encouraged its employees to utilize their skills and passions to educate each other. General Dynamics redirected some of their outsourced training funds to in-house continuing education. Their corporation recognized the amount of knowledge and expertise possessed by their employees and chose to capitalize on it via brown bag lunches and more extended sessions they called “deep dives”. Both of these methods allowed their employees to share their experience and skills with coworkers. The results were three fold: increased employee happiness, decreased attrition, and new product innovations.6

Another important facet of developmental education for the force is advanced academic degrees; however, the policies and guidance on graduate-level education are often inconsistent and inadequately funded. Per Air Force Instruction (AFI) 36-2306, *The Air Force Education Services Program*, updated 1 Mar 13, the Air Force provides tuition assistance (TA) “for the combined cost of tuition and authorized fees not to exceed 250 dollars per semester hour credit and 166.67 dollars per quarter hour credit…[with] an annual cap of 4,500 dollars.”7 These funds are available to Airmen for a number of uses, to include completion of education at accredited

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6 Ibid

undergraduate and graduate level education, as well as the pursuit of language-based training, flight training at accredited base aero club programs, and professional and teaching certifications.\(^8\) Airmen must also meet certain eligibility requirements to receive TA, including retainability extending beyond the term end date for enlisted personnel and a date of separation (DOS) 2 years following the term end date for officers.\(^9\) Current Air Force TA guidance, published 1 Oct 13, has added the requirement for supervisors to approve all TA requests in an effort to ensure educational pursuits do not conflict with periods of high mission ops tempo.\(^10\) Furthermore, the new guidance has barred Airmen from pursuing TA for levels of education that they have already obtained. This level of funding and restrictions send mixed messages about the intent and necessity of pursuing graduate level education.

Unfortunately, the TA program in its current state does not incentivize Airmen to pursue any type of degree program or discriminate between accredited institutions. While this is certainly not the standard among all Airmen, the “check the box” mentality is pervasive throughout much of the Air Force community. The Air Force should consider increasing the amount of TA offered for functional area-relevant degree programs. The National Center for Education Statistics estimated that in 2010 the annual cost of full time graduate studies was $14,537, well short of the $4,500 TA annual cap.\(^11\) In order to ensure knowledge gained in these

\(^{8}\) Ibid pg 17-18
\(^{9}\) Ibid pg 48
Experiential education for mid-level officers should also be expanded to bring new perspectives into the organization. To do so, the Education with Industry (EWI) program should be expanded. According to AFI 36-2639, *Air Force Education with Industry Program*, and the EWI Handbook, EWI is “a highly selective, competitive non-degree educational assignment within an industry related to the student’s career field”. Open to captains and majors in primarily 6-series Air Force Specialty Codes (AFSCs), EWI allows officers to work in corporations in both the defense and non-defense business sectors for a period of 10 months, at which time enrollees return to their respective career fields within the Air Force.\(^\text{12}\) By developing a comprehensive work plan with a company mentor at the beginning of their EWI assignment, officers chart a course of action to gain both corporate and functional experience. After executing the work plan over the following 10 months and then returning to their respective functional communities within the Air Force, officers must complete a critical analysis paper, which examines an area of interest within the corporate sector that the Air Force could incorporate to improve operational efficiency, effectiveness, or both.

The EWI program currently only accepts limited AFSCs and focuses on large companies. In our opinion, this limited scope needs to be expanded to provide greater impact throughout the entire force. As a program available to mid-level officers in a limited number of career fields, EWI has remained a relatively small-scale program within the broader Air Force enterprise. In order to broaden the impact of the EWI program, the Air Force could either open up the participation to more career fields or lower the threshold for similar, related intermediate

developmental education (IDE) opportunities (i.e. fellowships with sister services, foreign military, RAND Corporation, etc). Furthermore, the Air Force should strive to build collaborative partnerships not only with companies that are recognized leaders in innovation, but also with start-ups to add diversity to the program. Upon completing their tours, we must strengthen the mechanisms available to participants to capture and disseminate lessons observed and learned. We propose using EWI and similar IDE program graduates to staff base innovation councils so that their expertise and knowledge can be harnessed to spur innovation across an entire installation. A new Innovation Office would lend much needed support to leverage the full innovation benefits of the EWI program.

**GRASSROOTS INNOVATION: CHANGES TO CORPORATE CULTURE**

The result of introducing the office of innovation and educating for innovation would be the creation of a culture of innovation that would cultivate positive incentives to motivate all Airmen to become engaged, find efficient solutions, and provide follow-through on implementation. Soren Kaplan, a consultant on organizational innovation strategies, suggests using symbols and rewards to promote the free flow of ideas, structuring unstructured time, and creating metrics in order to foster a positive internal culture. In the USAF, we can start to move in this direction by boosting the visibility of existing innovation efforts such as the “Every Dollar Counts Campaign.”

The “Every Dollar Counts Campaign” was representative of current attempts to bolster innovation in the USAF. This was a USAF-wide campaign to solicit cost saving ideas which

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13 “CY13 Intermediate and Senior Developmental Education (IDE/SDE) Designation Board and Civilian Developmental Education (CDE) Designation Board Results”a, 8 November 2013
14 Kaplan, Soren, *Leadership Excellence* August 2013; 30, 8; ABI/INFORM Complete, pg. 16
generated over 11,000 submissions in 30 days.\textsuperscript{15} The effort was headed by Air Force Vice Chief of Staff General Larry O. Spencer who promoted participation and thanked individual units and airmen for their contributions.\textsuperscript{16} This recognition from senior leaders is a critical first step in changing the culture. Additionally, by reflecting participation in a formal official innovation program, these positive outcomes can be captured in performance reports and promotion packages. USAF-wide efforts like this are critical in promoting enterprise-wide recognition for innovation. Furthermore, the Innovation Office would have responsibility for centralizing a process through which good ideas can be incentivized, captured, refined and followed up on. Reinforcing this process is critical to repeating the success of similar efforts and institutionalizing innovation as a facet of the culture in today’s USAF.

In order to expand these structured innovation processes we must focus on incentivizing and recognizing engagement from all ranks and functional areas. There are several ways to offer incentives to airmen including offering additional money, giving them more time off to spend with family and friends, or positively affecting their promotions. The quarterly award system and comparable awards are a good place to start. Currently, performance report documentation (Officer Performance Reports, Enlisted Performance Reports, and mid-term feedbacks) and quarterly award packages do not have categories that specifically address a member’s innovative capacity or contributions. Introducing specific innovation awards or modifying existing forms of recognition to introduce “innovation” as a category would refocus our thinking as an organization.


\textsuperscript{16} Ibid.
Recognition is also advanced by formalizing, standardizing, and enacting positions and duties related to innovation. For example, serving as an Executive Officer is a well-understood recognition throughout the USAF because the position is prevalent across functional communities and expectations of those serving in the capacity are well understood. In this same vein, establishing innovation teams or innovation officer positions would incentivize competition to serve on an innovation task force and ingrain the priority of innovation into the structure of the USAF corporate culture.

Finally, we should continue to promote cost savings programs at the unit level to change how units think about the execution of their annual budget. Currently, there are strong disincentives to leave funds unexpended at the end of the fiscal year (See Appendix B). In order to reverse this trend, the USAF should provide financial incentives for those bases coming in under budget at the end of each fiscal year. Specifically, a base should be able to keep a certain percentage of their savings to enhance Airmen quality of life programs in the current fiscal year, at the discretion of the Wing Commander. A benchmark for this initiative is the Commander-in-Chief’s Installation Excellence program.

The Commander-in-Chief’s Installation Excellence program awards one million dollars to the Department of Defense (DoD) installation that best “promotes innovative and creative ways of enhancing base-level services, facilities, and quality-of-life”\(^\text{17}\). As an additional incentive for installations to pursue this DoD recognition, the Headquarters Air Force and many major commands (MAJCOMs) offer similar, smaller financial awards for Installation

Excellence. By rewarding efforts to improve quality of life at the base level with financial incentives, the DoD and Air Force have motivated installation commanders to pursue complementary programs at their own installations. This “top-down” push for installation excellence should be replicated to achieve cost savings and increased level of service. By ensuring that Wing Commanders are able to use a portion of their base’s fiscal year end savings for quality-of-life improvements, the Air Force can motivate senior leaders at the installation level to promote cultures of innovation within their organizations.

CONCLUSION

The Air Force must institute reforms at the grassroots level to foster a renewed culture of innovation. The USAF must refocus efforts to develop our human capital by reforming and expanding existing educational and training programs for Airmen, particularly policies surrounding AADs and EWI. However, incentives must be combined with consistent institutional support to give innovative practices forward momentum. A new Innovation Office would be critical in closing the loop on generating, developing, and institutionalizing innovation in the culture of the USAF. By enacting these reforms, the USAF can align its culture with the unique demands of the 21st century and recapture excellence.

18 Ibid.
BIBLIOGRAPHY


Kaplan, Soren, Leadership Excellence August 2013; 30, 8; ABI/INFORM Complete, pg. 16


APPENDIX A: PROPOSE SABBATICAL STRUCTURES

Sabbaticals would be treated as permissive temporary duty assignments (TDYs). The member will retain full pay and benefits during the sabbatical—reducing either in any way would likely deter many people from submitting valuable ideas. At this time, it is not recommended that funds be appropriated to assist members in their sabbaticals; members would be required to pay for any research requirements out of pocket. However, the Wing Innovation Office would be responsible to maintain a robust program through which AFISP-approved members could apply for a wide array of grants to assist in research and completion of their ideas.

While on sabbatical, members would be required to be accountable to a senior officer or senior non-commissioned officer (SNCO) at the base for periodic updates to progress. Alternatively, an innovation “mentor” would be assigned from either the Air Force Institute of Technology (AFIT) (for technical innovation ideas) or Air University (AU) (for more broad-based cultural ideas) to which they would be accountable for a final product. In either case, the member would be required to meet a specific suspense date when approved for their sabbatical. On this date, the member will present their final innovative idea or cost-saving process to their “mentor” or the innovation office, which would be the office of primary responsibility (OPR) for consolidation and implementation of the various ideas. Following completion of their sabbatical, members would continue to their gaining unit according to their reporting instructions.

Several other areas will need to be addressed. First, in the Navy CIPP, a 2-to-1 ADSC is incurred by any member approved for sabbatical (that is, for every year taken off, two years of additional service are required). Because the innovation sabbatical is on a relatively short timeline of no more than three months—except when deemed necessary—no additional ADSC
would need to be added. Second, there will not be a maximum number of applicants allowed to submit ideas or a maximum number of approved ideas. This will prevent the innovation office from turning down many potentially smaller-scale cost-saving ideas in the expectation that a subsequent proposal could yield better results. All submissions will be considered on their own merits and ability to save money for the Air Force. Third, sabbaticals will be approved for individuals, but certain submissions may result in a group effort if members have an identical PCS/PCA date and share a common idea. The Wing Innovation Office should also maintain a database with other offices around the Air Force to screen for identical ideas in an effort to match members to collaborate on ideas. A last optional COA for the AFISP would be to reward members who cross a certain tangible cost-savings monetary threshold with their idea. We suggest members could receive a small percentage of the money saved by the Air Force upon implementation of their proposal.

An obvious criticism of this program is that there is high potential for the sabbatical to be abused as personal vacation for members who find it difficult to stay on task. This could easily be mitigated by the previously mentioned weekly or bi-weekly updates to the assigned innovation mentor. Additionally, Wing Innovation Offices will ensure that the time approved for the sabbatical is commensurate with the required research and effort put forth by the member.

AFISP is relatively easy to implement at little-to-no cost to the Air Force. With the Wing Innovation Office acting as conduit for the myriad ideas that are doubtlessly floating around every Air Force base, AFISP will provide the means through which these innovative concepts can be molded and enacted. No longer will airmen need to rely on a “better ideas” box in which they drop a sheet of paper with a good idea, with no feedback of whether or not their cost-saving plan had any merit. It is imperative that the Air Force consider this program and other ideas like
it in order to foster a true culture of innovation that will reap huge rewards in cost-savings as we enter a prolonged, fiscally constrained environment.
APPENDIX B: DISINCENTIVES IN THE CURRENT BUDGETING PROCESS

Under the Department of Defense (DoD) budgetary process, service branches are authorized and apportioned Operations and Maintenance (O&M) dollars for each fiscal year. These amounts are based upon inputs provided by each MAJCOM during the Execution Plan process, whereby each base identifies their requirements for the upcoming fiscal year. As it is impossible to perfectly predict the actual execution of dollars during a given Fiscal Year, many Air Force bases find that they have under-executed their budgets in the weeks leading up to fiscal year end, 30 September. While base organizations are instructed to “return” this unused money to the base budget office, so the funds may be sent to the owning MAJCOM for re-distribution to other bases in need, the reality is that many units decide to fund non mission-essential purchases, rather than return the money. Their motivation for this practice is simple: coming in under your budget in the current fiscal year likely means that you will be cut the same amount in future fiscal years. By not incentivizing the prudent use of resources, the Air Force has inadvertently discouraged innovative practices at the base level to satisfy mission requirements at reduced costs.