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14. ABSTRACT The Air Force seeks to foster a culture of innovation in order to face the challenges of the 21st century operating environment. In order to meet this goal, Air Force leaders must look beyond technology and consider whether Air Force culture enables the capacity for the innovation senior leaders seek. The intricate relationship between risk, trust, and innovation within an effective human operating system must be understood and harnessed in order to enable airpower innovation in the 21st century.					
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MASTER OF MILITARY STUDIES

TITLE:

THE RISK-TRUST-INNOVATION NEXUS: A TIGHTLY COUPLED SYSTEM

SUBMITTED IN PARTIAL FULFILLMENT
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Executive Summary

Title: The Risk—Trust—Innovation Nexus: A Tightly Coupled System

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Thesis: In order for the Air Force to rebuild a culture of innovation and fly, fight, and win in the future operational environment, the Air Force must harness the human operating system through high-trust leadership, empathy, and clarity of organizational purpose.

Discussion: In the early days of airpower, the U.S. Army Air Corps Tactical School was an incubator of innovation that developed the airpower doctrine employed in World War II. Today's continued combat operations, growing budget pressures, and personnel drawdowns amid rapid technological advancement, challenge U.S. Air Force leaders in a similar way. In this environment, the Air Force must look beyond technology and consider whether its culture enables the capacity for the innovation senior leaders seek and success in the future operating environment requires. This essay defines innovation and establishes the role of culture in enabling innovation and organization change. The human operating system and the emerging human economy provide a framework for understanding the intricate relationship between risk, trust, and innovation within organizations. The framework, informed by the risk–trust–innovation nexus, then enables analysis of U.S. Air Force strategic documents, senior leader rhetoric on innovation, and vignettes examining current U.S. Air Force organizations and culture. Innovation requires time, vision, and insight within a culture that provides sustained vision; encourages creative problem solving through acceptance of prudent risk, trust, and empathy; and makes resources, including time, available for experimentation. As technology automates more tasks previously performed by humans and the number of available Airmen continues to shrink, the Air Force must acknowledge and embrace the emerging 'human economy.' A culture of trust and empathy that creates time, space, and capacity for innovation enables the human capacities of creativity, character, and discernment. Centralized authority and resources, a zero-risk mentality, and the shortage of trust and empathy between Air Force senior leaders and rank-and-file Airmen will be the largest obstacles to ensuring the Air Force can innovate to fly, fight, and win – in air, space, and cyberspace in the Twenty-First Century.

Conclusion: The Air Force's history of innovation is insufficient to ensure continued airpower innovation in the twenty-first century. Air Force leaders at every level must push resources and authority to the level of information, establish a culture where deliberate risk in order to execute the mission is encouraged, and lead with trust and empathy by recognizing the need for a human operating system in order to fly, fight, win – and innovate.

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Preface

As an Air Force “brat,” the sound of jet engines was the background music of my childhood. Today, as an Air Force officer, I still love to hear the roar of those engines. I am blessed to be a part of the world’s greatest Air Force. I have considered the issues of trust, leader development, empowerment, creativity, and innovation for more than six years. This project enabled me to pull various thoughts and ideas together into a coherent whole. My hope is that the resulting essay contributes to a robust conversation within the Air Force about how we can leverage the human operating system to fly, fight, and win well into the future as a strong, coherent team while meeting our obligations to our core values, our nation, our families, ourselves, and each other.

This project would not have been possible without the love and support of my husband Adam and my daughter, Melanie. Adam, your love, encouragement, and faith in me is what allowed me to complete this effort. Thank you for always being on my team. I love you. Much gratitude is due to the men and women of the 375th Civil Engineer Squadron’s Operations Flight. I was privileged to lead this extraordinary team for two years. Their motivation, creativity, dedication, and sense of humor made me a better officer, a better leader, and a better person. Thank you for teaching me. I owe individual debts of gratitude to Dr. Paul Gelpi, and Colonel Shawn Campbell who consistently provided thoughtful and constructive feedback throughout the research and writing process. I am also exceedingly grateful to dozens of others who, over the course of time, helped me clarify my own views through discussion and debate as I completed this intellectual journey.

In the skies over Saint-Miheil in September 1918 then Lieutenant Colonel William “Billy” Mitchell commanded the largest air force ever assembled under a single commander. Mitchell massed forces at decisive points to support ground action, conducted reconnaissance, established air superiority, and bombed targets behind enemy lines.¹ His accomplishments gave the world its first glimpse of the full potential of military aviation, and left an indelible mark on American Airmen. Beginning in 1920 and carrying on through World War II, the faculty and students of the Air Corps Tactical School (ACTS) developed an entirely new theory of airpower and vision of future warfare. Their vision would not have been possible without the time, vigorous debate, and visionary leadership present in the Army Air Corps and concentrated at the ACTS in the interwar years. Though the tactics were flawed initially, the atmosphere of experimentation and debate at the ACTS, which was carried forward by its graduates, ultimately enabled Allied victory. There is much to be learned from the culture of innovation within the Air Service during the twentieth century’s interwar period as today’s military face the challenge of reinitiated combat operations in Iraq; continued military operations in Afghanistan; growing budget pressures; and personnel drawdowns amid rapid technological advancement.

Today’s Air Force leaders, like those during the interwar years, must consider whether the service’s culture creates sufficient capacity for the successful innovation required by the future operating environment. Over the past two years, Air Force Chief of Staff, General Mark Welsh, has released several documents encouraging Airmen to embrace and continue their history of innovation.² A history of innovation, however, does not guarantee a future of innovation.

Today’s Air Force culture and organization inhibits rather than encourages conditions that would

¹ Robert T. Finney, *History of the Air Corps Tactical School 1920-1940*, (Washington, D.C: Center for Air Force History, 1992 imprint), 5-6.

² See: “The World’s Greatest Air Force Powered by Airmen, Fueled by Innovation: A Vision for the United States Air Force,” release: January 2013; “Global Vigilance, Global Reach, Global Power for America,” release: August 2013; “America’s Air Force: Call to the Future,” release: August 2014

allow for innovation in the same vein as the Air Corps Tactical School in the interwar period. If the Air Force is to rebuild its culture of innovation to fly, fight, and win in the future operational environment, it must harness the human operating system through high-trust leadership, empathy, and clear intent. This paper will define innovation; demonstrate how leadership, organizational culture, and organizational structure all support successful innovation; how Air Force culture impacts its ability to innovate; and advance a few recommendations to enable the Air Force to innovate in air, space, and cyberspace in the twenty-first century.

Innovation Defined

‘Innovation’ and ‘change’ are not synonyms. In “The Future of Military Innovation Studies,” Adam Grissom defines innovation as: “a change that significantly alters how military formations function in combat, is significant in scope and impact, and is equated with an increase in combat effectiveness.”³ In *The Sources of Military Change: Culture, Politics, and Technology*, Theo Farrell and Terry Terriff emphasize that military change is, “a change in the goals, actual strategies, and/or structure of a military organization.”⁴ When combined, a working definition of military innovation emerges: a mechanism or process of altering the functions of military institutions to increase effectiveness through application of new technologies, tactics, strategies, and structures. Successful innovations are changes to organizations, structure, or processes, which are integrated into the culture, structure, and strategy of military units, ultimately enabling mission success, and national defense in new and more effective ways.

Innovation requires seeing and solving problems in new and different ways. In his Introduction to *Army Transformation: A View from the U.S. Army War College*, Williamson

³ Adam Grissom, “The Future of Military Innovation Studies,” *The Journal of Strategic Studies*, Vol 29, No 5, Washington DC, October 2006: 906 – 907

⁴ Theo Farrell and Terry Terriff, Introduction to *The Sources of Military Change: Culture, Politics, Technology*, ed. Theo Farrell and Terry Terriff, (Lynne Rienner Publishers: Boulder, CO, 2002), 5.

Murray addresses the importance of culture in successful innovation. He emphasizes the availability of time for intense study and reflection; the ability to critically examine the future operating environment; and the cohesion provided by a sustained long-term vision as key environmental attributes of successful cultures of innovation. Regarding the United States' successful innovations during the Interwar period, Murray notes the significant emphasis placed on professional military education at the time, including the high regard of faculty, who were known as experts in their fields, and the participation of faculty and students in operational experimentation.⁵ This was true of the Air Corps Tactical School. The faculty was dedicated to both instruction and doctrinal development, even suspending classes in 1921 to participate in aerial bombardment exercises and adding courses in practical flying in the afternoons. These practical flying courses allowed students and faculty the opportunity to experiment with the theories debated in morning seminars, eventually leading to the development of the doctrine of daylight, high-altitude precision bombing.

The topic of innovation is not limited to the military and has become a highly examined topic in the business world. In fact, the December 2014 issue of the *Harvard Business Review* was dedicated 'Innovation.' In "Leading Your Team into the Unknown," Nathan Furr and Jeffrey Dyer remind readers that, "Innovation is at heart a process of discovery." This is a key point. Discussions of innovation often focus solely on the product: daylight, high-altitude precision bombing; maneuver warfare; the iPhone. Just as critical are the time, context, and culture that enable these products of innovation because innovation is also rarely the result of an individual's heroic efforts. Most innovations are the consequence of successful cross-functional teams with varied and complementary expertise working with a common purpose and toward a

⁵ Williamson Murray, introduction to *Army Transformation: A View From the U.S. Army War College*, ed. Williamson Murray (Carlisle Barracks, PA: Strategic Studies Institute, 2001), 9-14.

common vision. In short, “the role of the person leading [the effort] is to set other people down a path, not to short-circuit it by jumping to a conclusion right from the start.”⁶ They go on to advance, “Innovation requires devoted time blocks because the associational thinking that leads to new insights is more apt to happen when the mind is totally absorbed with a particular challenge, whether through observations, conversations, experiments, or meditation.”⁷ This is not a unique observation. Regardless of the field of endeavor, innovation requires time, vision, and insight. While these conditions are necessary, they are insufficient. Conditions conducive to innovation are most often the result of an organizational culture that provides sustained vision, encourages creative problem solving, and makes resources, including time, available for experimentation.

Culture and Its Impact

A healthy organizational culture has tremendous positive impact on an organization’s success. In *Organizational Culture and Leadership*, Edgar Schein provides a framework for understanding organizational culture beginning with a critical examination of shared organizational assumptions. At the most basic level, “culture implies that rituals, climate, values, and behaviors tie together into a coherent whole.”⁸ Culture includes common understandings and mechanisms, which ensure long-term structural stability and shared patterning.⁹ Schein’s definition of culture, “a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered...the correct way to perceive, think, and feel in relation to those problems”¹⁰ will be used for this essay. The fact that a culture, exists does not necessarily mean that the culture is

⁶ Nathan Furr and Jeffrey H. Dyer, “Leading Your Team into the Unknown”, Harvard Business Review, December 2014, 82.

⁷ Ibid, 87.

⁸ Edgar H. Schein, *Organizational Culture and Leadership* (4th Ed) (Hoboken, NJ: Jossey-Bass, 2010), 17.

⁹ Ibid, 16.

¹⁰ Ibid, 18

‘good’ or ‘healthy’ or one which fosters organizational success. Those aspects of culture are dependent on the external environment in which it exists.¹¹ Culture’s impact is far-reaching. It becomes a control mechanism, a “basis of explicitly manipulating members into perceiving, thinking, and feeling in certain ways.”¹² Culture is how members of an organization recruit and assimilate new members, perpetuate the organization, and establish persistent standards for behavior and success. In order to understand culture’s complexity, one must also consider organizational image and organizational identity.

In “At the Fulcrum of Air Force Identity,” Lieutenant Colonel Jonathan Riley establishes the recursive relationship between organizational culture, organizational image, and organizational identity. Simplistically, culture is the internal view of an organization, image is the external perception of an organization, and identity answers the question: “Who are we?”¹³ It is through both internal and external messaging that members of an organization answer that question for themselves. Identity is the product of a social process where internal and external feedback loops are informed by culture and image.¹⁴ Riley then draws upon Kevin Corely’s examination of the divergent perceptions of organizational identity between senior managers and rank-and-file members of large organizations.¹⁵ When considering organizational identity, senior leaders tend to place greater importance on organizational image, or the views of external stakeholders, rather than shared internal organizational norms that comprise organizational culture. Conversely, personnel at the lower levels of the organization, the organization’s rank-and-file, tend to view the organization almost exclusively from an internal perspective, valuing

¹¹ Ibid, 14

¹² Ibid, 19

¹³ Jonathan Riley, “At the Fulcrum of Air Force Identity,” Drew Paper No. 11, Air University Press, Maxwell AFB, AL, Jan 2014, 8.

¹⁴ Mary Jo Hatch and Majken Schultz, “The Dynamics of Organizational Identity,” *Human Relations* 55, no. 8 (2002), 995.

¹⁵ Riley, “At the Fulcrum of Air Force Identity,” 3.

cultural artifacts and oftentimes failing to account for external perceptions entirely.¹⁶ Lower-level employees consistently expressed concerns regarding discrepancies across time and between senior leader rhetoric and an employee's daily experience. Conversely, senior leaders consistently focused on discrepancies between their perceptions and external stakeholder perceptions of the organization.¹⁷ In order to develop a shared sense of identity, senior leaders must narrow the gap between themselves and rank-and-file Airmen. Since the rank-and-file maintain a strong connection to cultural artifacts and desire consistency across time, it is especially important that planned change incorporate concrete links between the current organizational culture, the desired organizational change, and the continuity between the two. As Corley observes, any attempt to change organizational identity in response to external stakeholders is risky. Change efforts often fail unless leaders clearly define how and why identity labels must change and reaffirm how the new labels fit into organizational goals and objectives, backed up by changes in leader behavior.¹⁸ As Riley notes, "ultimately... members of the organization will observe and interpret leader actions and draw conclusions about what the leader—and by extension, the organization—values."¹⁹ Despite leader rhetoric or press releases to the contrary, rank-and-file organizational members will be their own arbiters of what the organization values. If leaders do not 'walk the walk,' no change will occur and the distance between rhetoric and the reality 'on the ground' will grow.

The Challenge of Change

Divergence between senior leader perceptions and organizational rank-and-file perceptions has a significant impact on organizational change, especially when changes aim to

¹⁶ Ibid, 16-17.

¹⁷ Ibid,19

¹⁸ Kevin G. Corley, "Defined by Our Culture or Our Strategy?," *Human Relations* 57, no 9, (2004), 1168.

¹⁹ Riley, "At the Fulcrum of Air Force Identity," 22.

prompt shifts in organizational identity. Organizational change efforts are frequently driven by changes in the external environment. Though military organizations are not profit-making enterprises, they share many attributes of ‘mature’ organizations undergoing planned change. In “Re-Energizing the Mature Organization,” Richard Beatty and David Ulrich describe the challenges mature organizations, with rigid norms and standard operating procedures, face in adapting to changes in the external environment through the Renewal process.²⁰ While standards and clear expectations enable consistency, predictability, and efficiency, mature organizations may be ill equipped to face changes to the business environment. To accomplish true renewal, organizations must replace traditional control measures with “an empowered workforce that is more self-directed, self-managed, and self-controlled...[which] acts out of commitment to purpose without the...boundaries and narrow mindsets of mature organizations.”²¹ Renewal has five distinct stages: restructuring, bureaucracy bashing, employee empowerment, continuous improvement, and cultural change.²² Strong leadership is essential to success in each stage. Leaders must have credibility, be trusted by the rank-and-file of the organization and be able to understand and convey the organization’s core purpose in order to elicit the time and energy required to make the vision a reality.²³

Sustained, engaged, and credible leadership is vital during organizational renewal. As Restructuring organizations become ‘leaner’ in order to increase profitability leaders must boldly and fairly make difficult decisions and maintain or implement processes that ensure employees retain equity and due cause.²⁴ Eliminating employees requires eliminating bureaucracy. In the

²⁰ Richard W. Beatty and David O. Ulrich, “Re-Energizing the Mature Organization,” *Organizational Dynamics* 20, no 1, (Summer 1991):17.

²¹ Ibid, 18.

²² Ibid, 24-28.

²³ Ibid, 24.

²⁴ Ibid

Bureaucracy Bashing stage, “unnecessary reports, approvals, meetings, measures, policies, procedures, or other work activities that create backlogs”²⁵ This will change how employees view their day-to-day work at the same time employees are coping with changed perceptions of corporate loyalty due to downsizing. Alongside ‘excess’ employees, corporate loyalty is often eliminated during Restructuring, breaching the employee-employer contract even for employees who remain. This contract must be reestablished as quickly as possible, otherwise employees are likely to feel that they are bound by the contract, but the employer is not. Remaining employees then commit to the firm for short-term monetary goals and not the long-term dedication that arises from the satisfaction gained through being a member of the organization. Identifying and acting on this need to reestablish the employee-employer contract requires leaders with empathy. While beneficial to all businesses, reestablishing the contract is vital in successful military organizations. While businesses recruit outside talent at all levels, military organizations must develop their future leaders over a lengthy time period. Campbell’s Soup can bring in a new Chief Executive Officer if it wants to change direction, but the Secretary of Defense cannot make a co-founder of Google a four-star general and the next Chairman of the Joint Chiefs of Staff in order to increase innovation. Renewing military organizations must acknowledge the concurrent needs to retain empathy and reestablish the employee-employer contract as quickly as possible.

Power and authority are derived principally from position and status in hierarchical organizations. Through renewal, relationships, trust, and expertise begin to replace position and status as sources of power and authority, reducing hierarchies and replacing roles and procedures with engaged and empowered employees. This process of Employee empowerment should begin as early as possible during the Bureaucracy Bashing phase in order to allow employees to

²⁵ Ibid., 25.

participate in designing the renewed organization. This begins rebuilding employee-employer connections frayed or severed during the Restructuring phase. Empowerment leverages the knowledge and expertise of the group in order to develop new competitive advantages “through speed, simplicity, and service.”²⁶ The organization is likely ‘flatter,’ with fewer layers of management and fewer employees assigned to each function, therefore each employee remaining must be authorized and encouraged to make decisions within their area of influence. The authorization and encouragement to make decisions by employees at every level will foster employee engagement and enable accomplishment of the workload. Eliminating control mechanisms and allowing decisions at lower organizational levels requires leaders who clearly and consistently communicate the organization’s vision and goals. A clear and consistently communicated organizational purpose is essential to employee empowerment. Clarity of purpose allows subordinates to understand desired outcomes and the range of acceptable methods to achieve those ends. This open structure provides both direction and creative space while trusting and empowering leaders at every level of the organization to make decisions in line with organizational goals and vision. Employee empowerment opens a dialogue between management and employees, which begins to weave the new methods and focus into the fabric of the organization. Employee empowerment ensures the long-term benefits of reduced costs, increased productivity and less bureaucracy are realized.²⁷ Empowered employees will then inherently embrace the next stage of renewal, Continuous Improvement.

Continuous Improvement is a persistent application of, commitment to the implemented organizational, and management changes. Organizations are wise to begin instituting management analysis mechanisms as early in the renewal process as the level of employee

²⁶ Ibid, 27.

²⁷ Ibid, 27.

engagement and achieved empowerment allow. In the Beatty and Ulrich model, Cultural Change is assumed as a natural outgrowth of the renewal process.²⁸ They define culture as a set of standards and practices that have grown stale and prevent the organization from achieving optimal performance. Using that logic, new sets of standards and practices—outgrowths of changed mindsets and approaches—are essential to achieving true renewal. This understanding of culture is still compatible with Schein’s definition. Whereas Beatty and Ulrich focus on artifacts of culture, Schein focuses on the assumptions and organizational learning that underpins those artifacts. In that way the five stages of renewal can be viewed as the process of re-creating an organization’s “pattern of shared basic assumptions.”²⁹ Mature organizations therefore renew by creating empowered employees who become leaders at all levels of the organization.

The Human Operating System

The workplace is evolving in response to changes in technology and changes in society. The emerging workplace demands high, sustained organizational trust. The level of employee empowerment is a powerful indicator of whether or not the organization is successfully building or sustaining trust. While the literature primarily addresses trust from a leadership perspective, the trust subordinates have in their leadership is equally important. In other words, trust and distrust are both circular and reinforcing. If the employee feels the employer has ‘broken the contract,’ there will be an increased sense of distrust and vulnerability. If the rank-and-file, or the ‘doers’ of the organization do not trust senior leaders, they will not internalize and actualize the vision or values senior leaders espouse; nor will they invest the time and energy required to achieve higher levels of performance or any successful, large-scale change initiative.

Fortunately, organizations with high-trust relationships will sustain trust, which increases the

²⁸ Ibid, 28.

²⁹ Schein, *Organizational Culture and Leadership*, 18.

likelihood that the rank-and-file will invest the time, and energy necessary to achieve greater levels of performance and institutionalize desired changes.

Modern communications and rapid technological change have begun to reorder relationships and sources of knowledge even within military hierarchies. In the industrial economy, standardization and precision were hallmarks of successful businesses. In the industrial economy, quality and profit were increased either by hiring more workers or reducing the time required to produce each unit. In the successor knowledge economy, intelligence and intellect are prized over physical labor.³⁰ Yet, knowledge, like technology, is only one piece of the puzzle. In a November 2014 article for HBR.com, Dov Seidman proposes that the knowledge economy is transitioning to a ‘Human Economy’ just as the agrarian economy once evolved into the industrial economy. Seidman asserts that economies are defined by how workers add value and that “in the human economy, the most valuable workers will be hired hearts.”³¹ While knowledge workers were prized for their technical abilities, those skills continue to be replaced by machines with greater and greater sophistication. What is not being replaced, are the “essential traits that can’t be and won’t be programmed into software, like creativity, passion, character and collaborative spirit—their humanity in other words.”³² In a human economy, trust becomes more, not less important.

Brene Brown, a shame and vulnerability researcher rocketed to Internet fame in 2010 when she gave a moving talk on the ‘Power of Vulnerability’ at TEDxHouston. In her talk, she discussed the need for connection and the intense fear of disconnection that is interwoven

³⁰ Walter W. Powell and Kaisa Snellman, “The Knowledge Economy,” *Annual Review of Sociology* 30, (2004): 199.

³¹ Dov Seidman, “From the Knowledge Economy to the Human Economy,” *HBR.com*, November 12, 2014, accessed: February 27, 2015, <https://hbr.org/2014/11/from-the-knowledge-economy-to-the-human-economy>.

³² *Ibid.*

throughout the human experience.³³ In her subsequent TED Talk, Brown returns to the idea of connection and her own fear of vulnerability and shame, which she had to confront after her talk received 4 million views on TED.com (as of this writing, views top 18 million). Brown then makes a profound statement that eloquently informs Seidman's observation about what may be a nascent and emerging 'Human Economy,' "*vulnerability is the birthplace of innovation, creativity, and change*. To create is to make something that has never existed before. There's nothing more vulnerable than that. Adaptability to change is all about vulnerability."³⁴

Innovation emerges from the courage to embrace the uncertainty that a new creation may not work. Brown draws this connection through a vignette about one of the TED Fellows she met, a man named Myshkin Ingawale. Ingawale spoke about his drive to create a new way to test for anemia because people were dying unnecessarily. "He said, 'I saw this need. So you know what I did? I made it.' And everybody just burst into applause and they were like 'Yes!' And he said, 'and it didn't work. And then I made it 32 more times, and then it worked.'" Brown went on to say, "You know what the big secret about TED is?... This is like the failure conference... You know why this place is amazing. Because very few people here are afraid to fail."³⁵ Innovation is not for the faint of heart. It does, however, require time, space, and a culture with an operating system based on trust to flourish within organizations.

In his article, Seidman tells the story of a man trying to catch a flight after the death of his grandson. Arriving at the airport two hours before his flight, the length of the security line told him immediately that he would never make it to the gate on time. With no alternative, he waited through security and ran through the airport, arriving at the gate breathless and carrying

³³ Brene Brown, "The Power of Vulnerability," TEDx Talk, Ted.com, http://www.ted.com/talks/brene_brown_on_vulnerability/

³⁴ Brene Brown, "Listening to Shame," TED Talk, Ted.com, http://www.ted.com/talks/brene_brown_listening_to_shame/

³⁵ Brown, "Listening to Shame"

his shoes, twelve minutes after his flight's scheduled departure. Instead of being greeted by a closed boarding door, the man was welcomed by the pilot. "They can't go anywhere without me and I wasn't going anywhere without you."³⁶ The ticket agent had called ahead to the gate. This is the story of Southwest Airlines. Southwest, like all airlines, is judged on their on-time statistics. Unlike some other airlines, Southwest has instilled the importance of human values in all of their employees. The ticket agent, the gate agent, and the pilot all did the *human* thing because they all knew holding the plane was not only the right thing to do, but "was consistent with Southwest's well established values, chief among them, the insistence on doing the right thing for the customer."³⁷ The customer was served humanely because the philosophy and expectations were clear, the 'human operating system' was in place, and the employee and employer trusted one another that everyone's actions, if consistent with that operating system, would be rewarded and not condemned regardless of the impact to the 'on time' statistics.

In *The Leadership Triad*, Dale E. Zand emphasizes the importance of knowledge in modern organizations. Trust enables the flow of knowledge throughout the organization. In the same way, empathy informs knowledge as organizations transition to the 'human operating system' of the 'Human Economy.' In this way, one can consider the Human Economy as an extension of the knowledge economy. The Southwest employees who held the flight for the bereaved grandfather had to first possess the knowledge required to perform their duties. Only then could the organization's human operating system enable the 'currency' of empathy. Just as trust enables knowledge to flow through an organization, trust also activates empathy throughout the organization-customer system. Zand observes, "leadership...has three dimensions:

³⁶ Seidman, "From the Knowledge Economy to the Human Economy"

³⁷ Ibid.

processing knowledge, building trust, and using power sensitively.”³⁸ The sensitive use of power is analogous to empathy within an organization’s operating system. Southwest Airlines creates value through external, customer-focused empathy. Through his work with Fortune 500 companies, Zand establishes how knowledge, trust, and power form a tightly coupled system that either propels an organization to success or accelerates its decline. He summarizes these relationships this way:

When leaders have and use relevant knowledge, people trust them and grant them power because they have confidence that the leaders know what they are doing. When people trust their leaders, they disclose knowledge and accept the leaders’ use of power. Leaders guide their people to superior results, using the knowledge their people contribute.³⁹

Trust is integral to leader and organizational success. Zand builds a three-component definition of relational trust: “high vulnerability, low control, modest benefit, high possible loss, and belief that the other person will not abuse your vulnerability.”⁴⁰ When combined with Brene Brown’s understanding of vulnerability as the “birthplace of innovation, creativity, and change;”⁴¹ trust is clearly imperative in any organization that has staked its future on its ability to innovate.

The Essence of Trust & High-Trust Organizations

Like ‘innovation’, ‘trust’ has a range of definitions. In “The Risk-Based View of Trust: A Conceptual Framework,” T.K. Das and Bing-Sheng Teng define three components of trust. The first is *subjective trust*, or “a belief, attitude, or expectation concerning the likelihood that the actions or outcomes of another individual, group or organization will be acceptable or serve the actor’s interests.”⁴² The manifestation of subjective trust is *behavioral trust* or “relying on,

³⁸ Dale E. Zand, *The Leadership Triad: Knowledge, Trust, and Power*, (New York, NY: Oxford University Press), 1997, 22.

³⁹ Ibid.

⁴⁰ Ibid, 91.

⁴¹ Brown, “Listening to Shame”

⁴² T. K. Das and Bing-Sheng Teng, “The Risk-Based View of Trust: A Conceptual Framework,” *Journal of Business and Psychology* 19, no 1 (Fall 2004), 95.

or being vulnerable to, another party.”⁴³ *Trust antecedents* form the final component of trust. Trust antecedents, are the individual and environmental factors that influence subjective and behavioral trust. The most influential trust antecedent is the ‘propensity’ to trust and exhibit trusting behaviors.⁴⁴ Organizations that wish to cultivate a culture of innovation must understand and implement all aspects of trust in order to encourage information sharing and ensure empathy is practiced throughout the organization’s human operating system. In this way trust becomes a lubricant that enables increased performance and repurposes time and effort to the goals of the organization.

In *The Decision to Trust*, Robert Hurley establishes qualities of high trust organizations. More important than processes, procedures, or codes of conduct, Hurley emphasizes the importance of high-trust leaders to creating and sustaining high-trust organizations. High-trust leaders “distribute power to competent people and encourage them to do the same. The result is an organization where power and influence flow to where they are most effective rather than always migrating back to the corner office.”⁴⁵ Trust is not automatically or carelessly granted. Employees must be competent. High-trust organizations distribute trust, through authority, to the level of direct action, which is consistently below the level of top management. Members of all organizations, at all levels, evaluate how much they are trusted; and their subsequent behaviors reflect their assessment. This assessment then factors heavily on on how, and whether to further distribute trust or distrust. The impact on organizational performance is clear; trust “enables cooperative behavior without costly and cumbersome monitoring and contracting.”⁴⁶

Conversely, if distrust is perpetuated, additional layers of monitoring and control mechanisms

⁴³ Ibid, 97.

⁴⁴ Ibid, 96.

⁴⁵ Robert F. Hurley, *The Decision to Trust: How Leaders Create High Trust Organizations*, (Jossey-Bass, Wiley, San Francisco, CA, 2012): 99.

⁴⁶ Ibid, 7.

will most likely follow.

A focus on behavioral trust is beneficial in that rule or process changes, which require behavioral trust, are relatively simple to implement.. A leader, wishing to increase organizational trust, can lower the signature level of a report. This behavior indicates trust and begins a positive feedback process. Since subjective and behavioral trust are circular and reinforcing, leaders who wish to increase organizational trust must deliberately display trusting behavior. This must extend to a leader's communication. High trust leaders will not hide information; they will clearly explain existing risks to the organization and help followers understand the risks and ways in which to manage them within purpose and intent of the organization. "By acknowledging potential dangers openly and showing empathy, leaders...create a greater foundation for trust."⁴⁷ Consistent messaging and organizational alignment are integral to an organizational environment where leaders provide clear intent, push decision-making authority down to the level of the information, and empower employees.. These organizations with well-aligned and well-understood interests will in turn tend to foster greater trust. This is easier said than done, especially in complex organizations. As Hurley notes, "the alignment of interests begins with a philosophy of the firm: fundamental judgments are made about why the firm exists (purpose and mission) and its obligations to stakeholders (customers, shareholders, employees, communities). Trade-offs are difficult to make without clarity of values."⁴⁸ As a result, in high-trust organizations, "people...aren't excessively distracted by the need to protect themselves from others' self-promoting agendas."⁴⁹ In high-trust organizations teams collaborate for the benefit of the organization because they both give

⁴⁷ Ibid, 100.

⁴⁸ Ibid, 124.

⁴⁹ Ibid, 23.

and receive trust from one another.

The Relationship Between Risk & Trust

Trust is a quality or experience that can significantly enhance internal organizational relationships and enhance organizational performance. As with the relationship between vulnerability, creativity, and innovation, the relationship between risk and trust is complex. Risk is “a condition in which the consequences of a decision and the probabilities associated with the consequences are known entities.”⁵⁰ When evaluating implications of the relationship between risk and trust, the individual’s propensity to trust has a significant impact on actual trust between the person granting trust and the person in who trust is granted. Das and Teng term these roles, respectively, the ‘trustor’, and the ‘trustee.’ Subjective trust is the perceived probability that persons or groups will act in a manner beneficial to the person or organization making the determination. Behavioral trust encompasses the actions that result from subjective trust. Perceived risk is the perceived probability of negative outcomes. The definitions of risk as the assessed probability of negative consequences and subjective trust as the assessed probability of positive outcomes forms the basis of Das and Teng’s assertion that risk and trust are mirror images.⁵¹ If risk and trust are mirror images of assessed probabilities of outcomes, then environments of low trust are also environments of high risk, reinforcing the concept of trust and distrust as circular and reinforcing while also highlighting the interaction between behavioral trust and a ‘trustor’s’ assessment of and willingness to take risks.

When assessing probabilities of favorable and unfavorable outcomes, both subjective trust and perceived risk have multiple dimensions. Though terminology varies between researchers, in general, there are two distinct components of subjective trust. The first

⁵⁰ Das and Teng, “The Risk-Based View of Trust,” 87.

⁵¹ Ibid, 98-99.

component is the assessment of the ability or *competence* of an individual or group and the perceived intentions, or *goodwill*, of the individual or group. Both contribute to the overall assessment of subjective risk. A third dimension not emphasized by Das and Teng, but germane to this paper is the assessment of the trustee's *judgment*, his or her ability to make considered decisions or come to sensible conclusions, usually based on the trustor's own judgment of the trustee's competence and goodwill.⁵² In military organizations, judgment is selected for and continually evaluated, particularly in the officer corps because the future leaders of the organization are selected exclusively from this group.⁵³ Risk is composed of relational and performance risk. Relational risk encompasses the probability and consequences of a person or group not acting in the manner expected or required. Performance risk describes the probability and consequences of failing to achieve stated objectives. Performance risk is related to capacity to perform, and to situational constraints.⁵⁴ Therefore, risk and trust are mirror images interpreted through assessments of competence, goodwill, known constraints, and judgment.

The Role of Intent and Clarity

In order to enable a culture of innovation, there must be clarity of purpose within an organization. This clarity must extend beyond the top executives and permeate throughout the organization. It is only with an overriding clarity of purpose that an organization can develop a high-trust culture and create the time and intellectual space for employees to take the risks inherent in innovation. In *Start With Why*, Simon Sinek emphasizes the importance of clarity of purpose not merely to increase certainty, but also in relationship to employee engagement.

⁵² Ibid, 100.

⁵³ AF Form 707, Officer Performance Report (Lt thru Col), 1 Jan 2014. the Air Force Officer Performance Report, used annually to evaluate the performance of officers, lists judgment as one of seven performance indicators. http://www.e-publishing.af.mil/?txtSearchWord=af707&btnG.x=0&btnG.y=0&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs

⁵⁴ Das and Teng, "The Risk-Based View of Trust," 101.

Recall that consistent messaging and organizational alignment are essential to providing clear intent, which leads to greater trust throughout the organization. Sinek terms this clarity of purpose the ‘WHY’ of the organization. He conceptualizes organizations as consisting of a ‘WHY’, a ‘HOW’ and a ‘WHAT.’ In effective, innovative organizations the ‘WHY’ of the organization drives the ‘HOW’ (processes) and the ‘WHAT’ (products, services, or outcomes), therefore it is critical for organizations to not only identify their core purpose, but to align their processes and products or outcomes with that core purpose.⁵⁵ In aligned organizations with clear purpose and intent, leaders are more likely to trust subordinates understand the overall organizational goals. This opens up the possibilities for innovation. When leaders trust subordinates to understand the purposes and goals of the organization, they are more likely to accept the risk of innovation. When subordinates trust leaders will allow for creative failure inherent in attempting new ways of solving a problem, they are more likely to attempt innovative solutions. Conversely, as Sinek notes, “when the WHY is absent, imbalance is produced and manipulations thrive. And when manipulations thrive, uncertainty increases.”⁵⁶ When uncertainty increases, perceived risk increases, and trust decreases.

The Risk—Trust—Innovation Nexus: A Tightly Coupled System

Mutual trust and empathy enable organizations to harness the human operating system through the dual concepts of high-trust leadership and clear intent. As established, high trust organizations delegate authority to commit resources down to the level of the information. In this way, they also distribute trust throughout the organization. In order to ensure success, authority must be accompanied by clarity of purpose and organizational intent. Innovation

⁵⁵ Simon Sinek, *Start With Why: How Great Leaders Inspire Everyone to Take Action*, (Portfolio / Penguin: New York, NY, 2009): 16.

⁵⁶ Ibid, 65-66.

requires time, space, intense study, and sustained vision. To be truly innovative is to create something entirely new, which requires risk. In order to take the risks required by innovation, the organizational culture must encourage thoughtful risk-taking through the currencies of trust and empathy. Military and business innovation are different in purpose. Nevertheless, the core requirement of innovation, the ‘increased effectiveness through application of new technologies, tactics, strategies, and structures’ is the same for both. Empowered decision-making at the level of the information reduces bureaucracy and creates the time and space required for innovation. The mirror images of risk and trust are evaluated through the lenses of the assessed competence, goodwill, known constraints, and judgment of another party. Thus, a leader’s assessment of competence relates directly to the amount of trust granted to subordinates. This assessment either enables an effective human operating system through trust, empathy and reduced bureaucracy or disables an organization through distrust, increased control measures, increased fear, and perceived vulnerability.

In *Leaders Eat Last*, Sinek addresses the relationships between empathy, trust, and organizational effectiveness from a leadership perspective. Sinek develops a concept of the ‘circle of safety.’ Inside the circle, people are free from the dangers of modern organizational life: intimidation, humiliation, isolation, and rejection, among other things. Sinek asserts that a leader’s primary job is to set a culture free from danger within the organization so that the organization is better able to face the dangers from outside the organization.⁵⁷ As Sinek notes, internal trust “creates an environment for the free exchange of information...[which] is fundamental to driving innovation.”⁵⁸ A human operating system, enabled by the currencies of trust and empathy creates a culture capable of innovation. An organization’s human operating

⁵⁷ Simon Sinek, *Leaders Eat Last: Why Some Teams Pull Together and Others Don’t*, (Penguin Group, NY, NY, 2014): 14-22.

⁵⁸ *Ibid*, 24.

system, much like a computer's operating system, must be built, monitored, maintained and adjusted to ensure it continues to operate as designed and intended. The role of organizational leaders is to perform these tasks, keeping constantly in mind that, "to earn the trust of people...[leaders] must first treat them like people."⁵⁹ People must be competent and confident. Once competent, confident people understand organizational vision and intent, it is leadership's responsibility to "step back and trust that their people know what they are doing and will do what needs to be done."⁶⁰ In organizations with strong human operating systems, and few control mechanisms, people may break the rules, but they will break the rules in line with the organization's mission, leadership's intent and because it is the right thing to do for people, not for their personal benefit. This reinforces the notion that "our confidence to do what's right is determined by how trusted we feel by our leaders."⁶¹

The Air Force and Innovation: Writing, Rhetoric & Reality

Writing. In January 2013, the Air Force published "The World's Greatest Air Force Powered by Airmen, Fueled By Innovation: A Vision for the United States Air Force." It was the first of several strategic documents addressing the idea of the Air Force as an innovative force and Airmen as inherently innovative. This document proclaims, "The story of the Air Force is a story of innovation. Airmen, using their unique perspective, have long stood for and pioneered innovative ways to win the fight while shaping the future...."⁶² As already discussed, the word 'innovation' has been open to interpretation. This paper defines innovation as 'a mechanism or process of altering the functions of military institutions to increase effectiveness through application of new technologies, tactics, strategies, and structures.' Put simply,

⁵⁹ Ibid, 11.

⁶⁰ Ibid, 75.

⁶¹ Ibid.

⁶² Headquarters U.S. Air Force, "The World's Greatest Air Force Powered by Airmen, Fueled by Innovation: A Vision for the United States Air Force," Washington D.C. January 2013, 3.

innovation is solving problems in new ways through new technology, tactics, strategies, or structures. The Air Force's recent strategic-level publications have consistently championed the idea of Airmen as innovative and innovation as critical to future success. The definition used within these documents is generally consistent with this paper's definition of innovation. In making this assessment, the three primary documents reviewed were the previously mentioned 2013 Vision Statement, "Global Vigilance, Global Reach, Global Power," which was released in August 2013 and "America's Air Force: A Call to the Future," which is a strategy for the next thirty years. "Global Vigilance, Global Reach, and Global Power" identifies the requirement of "seeing problems from an alternative perspective,"⁶³ which reinforces the necessity of deliberate study and creative solutions. "A Call to the Future," asserts that:

The Air Force's ability to continue to adapt and respond faster than our potential adversaries is the greatest challenge we face over the next 30 years. Meeting that challenge will require honest, recurring self-critique, and a willingness to embrace meaningful, perhaps even uncomfortable change.... We must commit to changing those things that stand between us and our ability to rapidly adapt (emphasis in original).⁶⁴

This emphasizes the challenge of embracing change and applying new technologies, techniques, or organizational structures. It goes on to say, "One of the most important responsibilities of a military service is to prepare the force for the challenges of tomorrow, not just the realities of today. This requires a journey into the unknown."⁶⁵ By acknowledging the need for innovation, a fundamentally different future operating environment, and that success requires understanding the nature of these changes; the Air Force is acknowledging the interplay of innovation and risk. The missing connection remains a clear understanding of the relationship between organizational trust, innovation, and risk. Acknowledging the need for 'honest, recurring self-critique' implies

⁶³ Headquarters U.S. Air Force, "Global Vigilance, Global Reach, Global Power for America," Washington, D.C., Aug 2013, 3.

⁶⁴ Headquarters U.S. Air Force, "America's Air Force: Call to the Future," Washington, D.C., July 2014, 8.

⁶⁵ "America's Air Force: Call to the Future," July 2014, 20.

a connection. Yet, the connection must be explicit. The trust-risk-innovation system must be deliberately studied, and both must influence how ‘uncomfortable change’ is implemented.

These documents paint a compelling picture of future innovation. In order to transform this vision into reality, all Air Force leaders must rapidly embrace, distribute, implement, and eventually institutionalize this vision. The new Profession of Arms Center of Excellence and its guiding document, the “DRAFT Strategic Roadmap: United States Air Force Professionalism,” is encouraging, especially if it leads to a candid conversation about what it means to be an Airman in the profession of arms. Yet, the document also reveals the disconnect between rank-and-file Airmen and Air Force senior leaders. The introduction states: “our aspiration is to be worthy of the nation’s trust through actions consistent with our Core Values can be summarized in one word: professionalism.... Whether in combat or peace, at home or abroad, on or off duty, Air Force Airmen must hold true to the sacred trust our institution requires.”⁶⁶ While true, external trust is impossible without internal trust and clarity of purpose. Once the Air Force’s core purpose resonates within the force and guides the actions of each Airman, innovation will follow. The Airmen at the level of the information will solve problems and make decisions guided by intent and confident that he or she has the trust of their supervisors to take reasonable risks to execute the mission.

Rhetoric. Air Force strategy and vision align with the requirements of innovation; however, the language senior leaders use reveals how divergent the perspectives of senior leaders and those of the rank-and-file Airmen really are. General Welsh, speaking at the 2015 Air Warfare Symposium, unintentionally highlighted the chasm between Air Force senior leaders and rank-and-file Airmen. During his remarks, General Welsh complained about lack of mission

⁶⁶ Headquarters U.S. Air Force, (DRAFT) “Strategic Roadmap: United States Air Force Professionalism, USAF/AI, December 2014. http://www.airman.af.mil/sites/default/files/StrategicRoadmapProfessionalism_Draft.pdf

focus saying, “while we continue to fight the fight really well while we're deployed and the folks who support it from home station focus all day long on fighting do fantastic work, as soon as you step away from that environment, or you 'redeploy,' the conversations turn to this ‘stuff.’”⁶⁷ The ‘stuff’ General Welsh referred to are: furloughs, sequestration, and changes to compensation.

Welsh went on to say,

I think we have to start with a refocus on our mission – and our primary job, which is to fight and win the nation's wars.... Chief Cody and I, Secretary James, have the privilege of traveling all over our Air Force, and when we ask at all calls everywhere for questions about anything Airmen want to talk about, they don't want to talk about new radars for their aircraft, operational questions. They don't want to talk about new tool kits, better ways of doing the job. They want to talk about all that stuff I've just been mentioning.⁶⁸

As resources shrink, mission focus is essential, but General Welsh seems to miss the influence the Air Force's decisions as an institution have on the questions Airmen ask. If Airmen were confident the institution was looking out for their best interests, if they trusted that the ‘people issues’ were on the right track, they would ask about the mission. Mission and people are inextricably linked, and if people do not trust their supervisors, commanders and the Air Force as an institution to take care of them and their families, the questions are going to continue to revolve around these ‘distractions.’ “Global Vigilance-Global Reach-Global Power for America” champions the mission-people connection.⁶⁹ Nevertheless, when programs and policies are poorly understood, are perceived as failing to take care of families, and reduce available personnel in already task-saturated work centers, questions for leaders will revolve around these uncertainties. General Welsh would not be getting these questions if commanders and supervisors knew the answers. That indicates the answers are either not available, or not communicated down to squadron-level. Both indicate failure of the human operating system.

⁶⁷ Mark Welsh, remarks, 2015 Air Warfare Symposium <http://www.acc.af.mil/news/story.asp?id=123439170&source=GovD>

⁶⁸ Ibid.

⁶⁹ Global Vigilance, Global Reach, Global Power for America, Aug 2013, 11.

Airmen choose their own problems and form their own perceptions. Unless changes occur in the human operating system, when Airmen stop asking General Welsh about force management, retirement changes, pay reductions, and family programs, it will mean they have stopped listening. Questions about upgraded radar systems will not fill the void. Remember, trust is circular and reinforcing. Even as the Air Force must trust its Airmen to focus on the mission and make the right decisions in execution of the mission, Airmen are trying to determine if they trust the Air Force to tell them the truth and enable them to take care of their families.

As General Welsh acknowledged, Airmen are fiercely dedicated to the mission. Since the September 11, 2001 terror attacks, Airmen have continually sacrificed time with their family, their friends, and pursuit of their personal goals to guarantee the Air Force could answer the nation's call. Everyone makes a calculation. They love their country but they love their families too. Airmen have met their commitments but the risk-reward equation is changing. Airmen will leave when they no longer trust the leader on the other side of the agreement. That is why General Welsh is getting these questions. Airmen always want equipment that is more capable and to be mission ready, yet more capable equipment is irrelevant unless Airmen can take care of their families. Without trust, control measures go up, propensity to accept risk in pursuit of mission success goes down, and the innovations required for success in the future operating environment is impossible.

Reality. The toxic mix of distrust, zero tolerance for even prudent mission-focused risk, and demand for micro-perfectionism in all things drove the current malaise in the Air Force's nuclear community. In August 2007, nuclear weapons were mistakenly flown from Minot Air Force Base in North Dakota to Barksdale Air Force Base in Louisiana, with the error going

undetected for 36 hours.⁷⁰ In the aftermath, the Air Force conducted a Blue Ribbon Review (BRR) in order to identify and correct the root causes of the incident. As a result, structural inconsistencies, including overlapping and contradictory command relationships were identified and later corrected, most notably through the standup of Air Force Global Strike Command in 2009-10 and the establishment of a nuclear directorate at the Air Staff. While the organizational issues were corrected, the cultural issues, stemming from lack of expertise, lack of resources, and lack of clear organizational purpose regarding the nuclear mission at a time of increased demand for conventional bomber forces were not fully addressed. The report highlighted the consistent under-resourcing and under-emphasis on the importance of the nuclear mission as the demand for operational conventional missions supporting Operations ENDURING FREEDOM and IRAQI FREEDOM was increasing. The ad hoc, inconsistent procedures that led to the 2007 incident were a direct result of these issues.⁷¹ □ While some attempts at quality of life initiatives were pursued,⁷² the recommendations for increased manpower, and priority of resources to the nuclear mission went largely unfulfilled at a time of budget reductions,⁷³ personnel reductions,⁷⁴ and sequestration. In 2013 when the cheating scandal among nuclear missile control officers became public, the Air Force was in the midst of its eighth consecutive year of personnel

⁷⁰ US Air Force, Maj Gen Polly Peyer, Executive Summary, Blue Ribbon Review Report on the 2007 Minot Incident, February 8, 2008, [Http://www.fas.org/bog/ssp/](http://www.fas.org/bog/ssp/)

⁷¹ US Air Force, Blue Ribbon Review Report on the 2007 Minot Incident, February 8, 2008, Appendix H, [Http://www.fas.org/bog/ssp/](http://www.fas.org/bog/ssp/)

⁷² Jessica McConnell, "New breezeway a family affair," Dec 16, 2010, <http://www.minot.af.mil/news/story.asp?id=123235288>

⁷³ Robert Gates, "Statement on Department Budget and Efficiencies", January 6, 2011, The Pentagon, Washington, D.C., <http://www.defense.gov/speeches/speech.aspx?speechid=1527>

⁷⁴ In 2007, authorized U.S. Air Force end strength was 334,2000 active duty personnel, 17,600 less than in FY2006, and the United States Air Force was in the middle of a 65,000 military personnel reduction initiated in 2004. The focus is on Active Duty end strength because ICBM operators and strategic bombing pilots overwhelmingly, if not exclusively, reside within the active force. Source: Maj Gen Frank Faykes, FY2007 Budget Rollout Brief, March 2006, <http://www.saffm.hq.af.mil/budget/pbfy07.asp>; Maj Gen Frank Faykes, FY2008 Budget Rollout Brief, March 2007, <http://www.saffm.hq.af.mil/budget/pbfy08.asp>.

reduction initiatives.⁷⁵

In the wake of cheating scandals in the Navy and Air Force nuclear communities, the Department of Defense commissioned its second Independent Review of the Nuclear Force in seven years, published November 2014.⁷⁶ The Review committee was chartered to “evaluate leadership, organization, investment, morale, polity, procedure-related, or other weaknesses or omissions in the nuclear enterprise that are adversely impacting the mission.”⁷⁷ The Review found the root cause to be “a series of significant disconnects including those between what the DOD and service leadership expected and what the leadership did to empower the forces to meet those expectations.”⁷⁸ Six years after the BRR recommended immediate steps to reverse the declines in prestige of ICBM crew duties, the culture continued to reflect systemic shortages in manpower, personnel, and lack of viable career paths while increased inspections and scrutiny added an expectation of micro-perfectionism. The Review documented excruciating pressure on the force resulting from leadership’s ‘micro-perfectionism’ mentality in all things. Risk-averse leaders who drove an inspection-focused culture and lack of resources to correct shortfalls had perverted healthy measures aimed at mission-success and accountability. In the words of the Review committee: “Micro-perfection generates macro-risk to the mission.”⁷⁹ While senior leaders verbally emphasize the importance of the nuclear mission, their message is undermined by the continuing lack of resources.⁸⁰ When a major upgrade to missile maintenance capability involves procuring two new wrenches to prevent the three ICBM wings from mailing a single

⁷⁵ SAF/FMB, FY2013 Budget Rollout Brief, February 2012, <http://www.saffm.hq.af.mil/shared/media/document/AFD-120210-112.pdf>

⁷⁶ Larry D. Welch and John C. Harvey, “Independent Review of the Department of Defense Nuclear Enterprise,” Jun 2, 2014, <http://www.defense.gov/pubs/Independent-Nuclear-Enterprise-Review-Report-30-June-2014.pdf>

⁷⁷ Ibid, B-3.

⁷⁸ Ibid, 1-2.

⁷⁹ Ibid, 7-8.

⁸⁰ Ibid, 6.

wrench back and forth to each other to perform maintenance, cynicism naturally follows.⁸¹ The significant disconnect between words, actions, and the day-to-day lives of rank-and-file Airmen is decreasing trust at a time when trust, necessarily, must be increasing for the Air Force to be an innovative force.

Successful, adaptable, and innovative organizations require talented, competent, and proven personnel. Enlisted Airmen comprise the bulk of U.S. Air Force personnel and are most responsible for day-to-day mission success. While ICBM operators and pilots are officers, enlisted Airmen carry out the work required to secure, maintain, and support those operations. Today's enlisted Airmen are highly experienced and highly educated. One in three non-commissioned officers has earned an associate's degree or higher and one in four senior non-commissioned officers has earned a bachelor's degree or higher.⁸² This is a highly capable force. In 2014, for the first time in a generation, this highly capable enlisted force was subjected to involuntary manning reductions. This broke the contract for the enlisted force in the same way the contract has been repeatedly tested for the officer force.⁸³ While external pressures drove work force reductions, the cuts were taken at the expense of Airmen's trust in the institution. On the heels of these force-reducing boards, are the most sweeping changes to the Enlisted Evaluation System and the Weighted Airman Promotion System in 45 years.⁸⁴ There is a clear

⁸¹ Jordain Carney, "Pentagon Plans Overhaul of Nuclear-Missile Squad After Cheating Scandals," *The National Journal*, <http://www.nationaljournal.com/defense/pentagon-plans-overhaul-of-nuclear-missile-squad-after-cheating-scandals-20141114>

⁸² Air Force Personnel Demographics as of March 31, 2015, <http://www.afpc.af.mil/library/airforcepersonnel demographics.asp>. As of December 2012, 4% of Enlisted Marines had 'Some College' or higher. Source: http://www.usmc-mccs.org/display_files/DemographicsBookletDec2012.pdf. Per the 2012 DOD Profile of the Military Community, the USAF had the highest percentage of personnel with a Bachelor's degree, with 25% of Active Duty Airmen possessing a Bachelor's degree or higher. http://www.militaryonesource.mil/12038/MOS/Reports/2012_Demographics_Report.pdf

⁸³ Debbie Gildea, "Enlisted Retention Board to Convene in June," December 30, 2013.

<http://www.af.mil/News/ArticleDisplay/tabid/223/Article/467837/enlisted-retention-board-to-convene-in-june.aspx>. While the officer force faced reduction in force boards in fiscal years 2007, 2008, 2010, 2012, and 2015. The enlisted force was trimmed through restrictive re-enlistment policies, recruitment restrictions, reduction in the maximum years allowed in service at a given rank, mandatory separation evaluation triggers, mandatory cross-training, and voluntary separation incentives.

⁸⁴ James A. Cody, "Onward and Upward," *AF Sergeants Association Magazine*, Jan/Feb 2015, 6.

<https://aforganizing.files.wordpress.com/2015/02/onward-and-upward-cmsaf-cody-afsa-jan-feb-2015.pdf>

need to discern which Airmen are ‘most ready’ for increased rank and responsibility; however, the forced distribution of top promotion recommendations to just 5% of a unit’s eligible members⁸⁵ has the potential to further undermine organizational trust and unit cohesion by fostering hyper-competitive, rather than hyper-innovative and mission-focused work centers. In his recent article, “Onward and Upward,” Chief Master Sergeant of the Air Force James Cody states, “If our supervisors give honest and purposeful feedback, the ACA [Airman Comprehensive Assessment] will drive performance. If Airmen know what their leaders expect of them, they will have a road map to success and an opportunity to reach their goals.”⁸⁶ Unfortunately, when the perception is that only one or two people have the opportunity to advance, people hoard information, suspicion grows, and the reinforcing feedback loop of distrust begins. When distrust, rather than trust, permeates the organization, the human operating system breaks down and lowers the probability that members will take the risks required for innovation. Instead, the lack of empathy discourages knowledge sharing and makes innovation impossible. The impact of these changes and the disconnect between senior leader rhetoric and rank-and-file perceptions is put into stark contrast by Cody’s statements at the 2015 Air Warfare symposium. As reported by *Air Force Times*, Cody said: “‘It can’t be: I go to work for 14 hours a day and I go home and pass out to get up to work for 14 hours a day tomorrow.’” *Air Force Times* went on to report, “Cody stressed that Airmen not in a combat environment need to let their leadership know when their workload is unsustainable instead of trying to work at a burnout pace because they feel the mission would fail otherwise.”⁸⁷ One must question whether Air Force culture would allow such a conversation to take place at all. With the changes to the EPR

⁸⁵ Ibid, 6.

⁸⁶ Ibid.

⁸⁷ Jeff Scholgol, “Cody to Airmen: Speak up before you burn out,” *AF Times Online*, February 13, 2015, <http://www.airforcetimes.com/story/military/2015/02/13/air-force-chief-cody-to-airmen-speak-up-before-you-burn-out/23353399/>

system, one can imagine Airmen pushing themselves past the breaking point in order to remain ‘in the running’ for the top promotion recommendation. It is easy to see where Airmen would assume that the first person to call ‘knock it off’ would be the first person eliminated from consideration for the top rating.

John Q. Public (JQP) is the blog and Facebook pseudonym of Tony Carr.⁸⁸ His diatribes highlighting the lack of connection between Air Force leadership’s rhetoric and the experience of many rank-and-file Airmen have earned the attention of Airmen of all ranks. While many rank-and-file Airmen regularly follow JQP on Facebook and his blog, some senior leaders have directed the Air Force network administrators to block access to his blog from government workstations.⁸⁹ Carr is neither the savior of Air Force culture nor is he always right or even objective but a glance through the comments on his blog is telling. He has tapped into the attitudes, aggravations, and perspectives of many rank-and-file Airmen in a way that Air Force leadership should be mining for data and not trying to discourage. Commenters on the JQP blog and Facebook posts range from junior enlisted personnel to field grade officers and include Active Duty, Air National Guard, and Air Force Reserve and retired Airmen across all career fields. If Air Force Senior Leaders truly want to understand the pulse of the force, and the impact of their decisions on the average Airman, the John Q. Public comment section is a great place to start.

The Way Forward: Recommendations

The Air Force has been innovating its entire existence; unfortunately, innovation has often been too closely associated with technological advances. Technology is important, but insufficient. This assumed coupling of innovation and technology is apparent in the Air Force

⁸⁸ JQP Blog homepage. Accessed February 15, 2015, <http://www.jqpublicblog.com>.

⁸⁹ JQP screen capture from AF BlueCoat. Accessed February 15, 2015. <http://www.jqpublicblog.com>.

History and Museum's, "The United States Air Force and the Culture of Innovation, 1945-1965." Published in 2002, the document is almost exclusively focused on how the Air Force advanced expertise technical expertise and acquired new technology, but provided no attention to the leadership and culture surrounding innovation efforts. Though the title includes the word 'innovation,' the focus is actually on engineering and technology, specifically the development of the Intercontinental Ballistic Missile (ICBM). The innovation of the ICBM program, however, came not from the technology, but from the time, space, resources, and authority allocated to General Schriever to not only develop the system, but to establish the most appropriate organizational structure and select the personnel with the needed expertise. These innovations were only possible because of the trust between General Schreiver and U.S. Air Force senior leadership.⁹⁰ In "Debunking Technical Competency as the Sole Source of Innovation," Lieutenant Colonel Burton Catledge notes, "many twentieth century inventors would not have been predicted to create inventions using the current measures of innovation."⁹¹ These include Thomas Edison, Orville and Wilbur Wright, and Steve Jobs. All had lacked conventional technical training, yet all developed technologies that fundamentally altered how humans interact with the world.⁹² More than technology must therefore be required for true innovation.

Innovation requires time, vision, and insight within a culture that provides sustained vision; encourages creative problem solving through acceptance of deliberate risk, trust, and empathy; and makes resources, including time, available for experimentation. Remember,

⁹⁰ Stephen B. Johnson, *The United States Air Force and the Culture of Innovation, 1945-1965*, (Washington, D.C.: Air Force History and Museums Program) 59-68.

⁹¹ Burton H. Catledge, "Debunking Technical Competency as the Sole Source of Innovation," *Joint Forces Quarterly* 76, (1st Qtr 2015), 22.

⁹² Catledge, "Debunking Technical Competency as the Sole Source of Innovation," 26-27.

*“Vulnerability is the birthplace of innovation, creativity, and change.”*⁹³ Innovation emerges from the courage to embrace the uncertainty that a new creation may not work, which requires taking risks. Innovation is not for the faint of heart. It requires members of the rank-and-file who are willing take risks because they feel trusted and leaders willing to risk time, space, and resources on the rank-and-file because they trust their subordinates to understand the goals and intent of the organization. The willingness to take the risks required to innovate is impossible without an organizational culture that is enabled by a human operating system based on empathy and trust.

As the Air Force attempts to meet the challenges of the twenty-first century security environment, it must courageously embrace the renewal process and implement a robust human operating system. The Restructuring phase is well underway, and a nascent Employee Empowerment phase is emerging, supported through the language of senior leaders.. The omission of ‘Bureaucracy Bashing’ is particularly evident in the micro-perfectionist culture of the nuclear community. Mismatches between leader’s rhetoric and the everyday experiences of Airmen undermine successful renewal and thwart the ultimate goal of reinvigorating a culture of innovation within the Air Force. The perceptions of senior leaders and the rank-and-file Airmen can and will begin to converge if the Air Force can develop and sustain a human operating system enabled by trust and empathy. As technology automates more tasks and the number of Airmen continues to shrink, the Air Force must acknowledge and embrace the emerging ‘human economy.’ A culture of trust and empathy that creates time, space, and capacity for innovation enables the human capacities of creativity, character, and discernment.

Three concrete steps Air Force senior leaders should take to exhibit trust and begin the

⁹³ Brene Brown, “Listening to Shame,” TED Talk, Ted.com, http://www.ted.com/talks/brene_brown_listening_to_shame/

process of building a successful human operating system within the service are: training and reporting on the activities that lead to mission success, returning significant resource and approval authorities to wing-level, and re-allocating manpower from mandated staff reductions to wing-level and below. These three steps reduce bureaucracy, increase experience and expertise at the tactical level (the level of the information and innovation), and demonstrate behavioral trust in order to begin the positive, reinforcing feedback loop between leaders and followers. Training and reporting requirements should be evaluated both for the value they add to each Airmen's capability to enable the Air Force's core purpose—to fly, fight, and win—and the amount of time and resources the requirement absorbs outside of executing core missions. The Air Force also needs to evaluate gaps in capability that are created by lack of time and expertise. The question of how to adjust operations on a reduced operating budget must shift from 'Tell us what you should stop doing' to 'What should we be doing to make ourselves a capable fighting force?' Requirements that do not make us more capable in core missions should be eliminated or changed to ensure the maximum amount of time in an Airmen's day is dedicated to mission accomplishment. The goal is not merely to ensure Airmen have more time to turn wrenches on aircraft. This also returns time to Airmen and their direct supervisors. This time can then be applied to developing true expertise and providing valuable, thoughtful, and relevant information through the reports that remain. When requirements can be completed thoroughly and deliberately; trust exists throughout the organization; and clear vision and intent is consistently conveyed, the conditions that allow for innovation begin to emerge.

As procurement priorities, inflation and overseas contingency operations have reduced available Air Force operating funds, more and more resources have been centralized at higher headquarters levels. These resources, including funds, training allocations, and manpower, are

then allocated based on spreadsheets and formulas derived from database entries. This ostensibly allows for enterprise-wide investment decisions. In reality, by centralizing resourcing decisions above the wing-level, headquarters staffs are effectively removing the authority, but not the responsibility or accountability of the Wing Commander for accomplishing the mission. If a mission were to fail due to lack of resources, the staff officer who sent the funds to another unit would not be the one out of a job. The Wing Commander, who lacked the flexibility to reprioritize or reallocate resources, would be replaced for failing to execute his or her assigned mission. Only in an Air Force where leaders at *every* level encourage smart risk-taking, and where subordinates believe supervisors and commanders allow smart risk-taking and failure with good intentions, will innovation flourish and Airmen continue their proud heritage of innovation and successfully meet the challenges of the twenty-first century global security environment.

The reallocation of manpower to the wing-level is closely related to the restoration of resources and authority to the wing-level. Mandatory staff reductions in the Air Force have predominately resulted in shifting manpower allocations to subordinate staffs and not actual reductions in overhead.⁹⁴ The return of experience and expertise to the wing-level and below would increase both time and expertise to the level of the information. Additional personnel reduce the per capita workload and increased experience and expertise allows for fuller understanding of various mission sets at the unit-level. As noted in the Introduction to the Independent Nuclear Review, a significant factor in degraded expertise was inexperienced personnel. While manning rosters may indicate authorizations are filled at one hundred percent, they do not reflect that senior non-commissioned officer authorizations are being filled by junior

⁹⁴ John McCain, Letter to Secretary of the Air Force, Deborah Lee James, dated March 24, 2015. <http://www.armed-services.senate.gov/mccain-to-secaf-re-hq-cuts>.

enlisted personnel.⁹⁵ A fuller understanding of the mission and sufficient time for immersion in the emerging challenges facing Airmen provide a greater opportunity for innovation across the service and within each mission area.

Conclusion

In order to reestablish a culture of innovation, which enables the application of airpower in new and different ways in the twenty-first century, Air Force leaders must build and sustain a human operating system throughout the service. This requires leaders at every level to deliberately push resources and authority to the level of information and understand that the human operating system cannot exist without trust, empathy, and clarity of purpose. With trust, empathy, and clarity of purpose in place, Airmen must come to believe that deliberate risk, in pursuit of mission success, is encouraged and rewarded. Only then will Airmen be willing to take the risks inherent in innovation. Lack of ingenuity, creativity, or dedication will not be what prevents the Air Force from building, sustaining, and harnessing a culture of innovation. Lack of organizational trust; the absence of a shared vision; and a shortage of empathy and trust without a functional human operating system will be the obstacles to innovation. The systemic centralization of authority and resources, a rampant zero-risk mentality, and a deficit of trust and empathy between Air Force senior leaders and rank-and-file Airmen creates an environment that is almost incapable of truly innovative thinking. This condition is reversible. America's Airmen are brilliant, creative, innovative, and motivated. They take extraordinary pride in a job well done and a mission well accomplished. Leaders must demonstrate trust through providing increased time, space, expertise, and control over resources to leverage these amazing Airmen.

⁹⁵ Welch and Harvey, "Independent Review of the Department of Defense Nuclear Enterprise," 1.

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