

EFMP: Innovated by Design

Synthesis Essay

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Innovators by Design RTF

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My participation in the Innovators by Design (IbD) research task force (RTF) was a great experience. Multiple topics resonated with me over the course of the three-quarter elective; however, the topic that most resonated was the effects of organizing the teams according to the Competing Values Framework (CVF).¹ Organizing the team according to the CVF affected every phase of the innovation project from topic selection to the final pitch. This paper will first discuss why I chose to write my synthesis essay on the CVF and its effects. This is followed by a discussion on the composition of the team and how that composition coupled with the timing of project topic selection affected the ultimate direction of the project. Next, a discussion of each innovation phase the team embarked on from ideation to pitch, all through the lens of the effects of the CVF, is presented. Finally, the paper concludes with feedback for the IbD leaders that do not particularly fit in other portions of the paper. Before discussing the innovation process, I will explain why I chose to write this synthesis essay on something other than one of the phases of innovation.

Why did I pick to write most of my synthesis essay on CVF? The CVF selection process was accomplished before the course even began to discuss the innovation process and its individual phases. Before forming our teams and selecting our topic we had to take a test similar to the Meyer's Briggs personality test, read the Innovation Code by Jeff DeGraff, and figure out what "color" we most closely aligned with.² Each member has a primary "color" and a secondary "color." None of that sounds very innovative in and of itself. What is innovative about it is how it was leveraged. The colors were used to pick the teams. Each team, to the best of my knowledge, has a green (Artist), a blue (Athlete), a red (Engineer), and a yellow (Sage). If the team does not have members representing each of the colors as their primary color, then to make sure the team was adequately represented from each character type, someone with a

secondary color in that deficient color was matched to the team. The fact that the CVF selection process was one of the very first things we accomplished during IbD is what makes it so important. It was foundational to everything we did. An important aspect of the CVF was understanding oneself.

The CVF teaches practitioners about themselves. I most closely aligned as a green personality type. Common terms associated with the greens are artists and creatives.³ Greens are accustomed to taking risks, thinking big thoughts, and being creative. Greens are also prone to moving on quickly from big ideas by handing them off to other team members after they are created and on their way. This is absolutely the way I tend to be. I get really interested in new ideas and projects and will devote much of my personal time and effort to getting the project off the ground. However, once that project is moving along, I get bored. I begin to look for ways to either terminate or hand-off the project. Of course, as soon as I do that, I am typically off to begin another project. Greens are also prone to procrastination and a lack of planning. This is certainly something I suffer from in personal settings though I tend to temper it in professional settings. One of the beneficial attributes of these personality tests is that you can learn what your strengths and weaknesses are and be aware of them. Sometimes what may be perceived as weaknesses can be helpful in certain scenarios. For example, during brainstorming situations, a green's impulsive and creative tendencies may spawn other ideas for team members. The great thing about the composition of the teams with one member from each color is that the other members serve to balance some of the more extreme tendencies from the other colors. For example, Chris Ward is a red (Engineer) personality type.⁴ In alignment with his color, he tended to be more analytical and look to see if a project was even in the realm of possible. He then kept us on task and made sure my procrastination did not get too far out of hand. This

balancing by other team members and my awareness of my and their tendencies is something that I will have to be acutely aware of in my next assignment.

For my next assignment, I will be the squadron commander of the 319th Aircraft Maintenance Squadron at Grand Forks AFB, ND. Upon arrival, I intend to have my leadership team take the personality tests. I will furnish the leadership team with a copy of my test and with their approval send their tests out to the rest of the squadron leaders. This will be helpful in many ways. It will help us move through the growing pains of figuring out each other's leadership and management styles more efficiently and effectively. It will help the leaders within my squadron understand "what the boss wants" and help me better communicate to them what I want. This will also help refine how they communicate and interact with each other. That understanding is so important to improving team productivity and helping them realize how each other "ticks" and maybe even what makes them "tick."

After we formed our project team, we moved on to figuring out what project we were going to tackle for the class and worked to figure out what made each other "tick." The timing of this phase of the course was critical to the topic that most of the teams selected for their projects. Each team spent a few hours together to figure out the main topic for their project. This was conducted at the beginning of the course, soon after nearly every member of the class had just moved to the area. Most of the teams selected topics that deal with making the moving process more efficient or making life in general in the Air Force better. My team ultimately ended up selecting the Exceptional Family Member Program (EFMP) as our broad topic. At the time of topic selection, each team member was enrolled in the EFMP and had negative experiences at some point during the EFMP-move process. The CVF influence was obvious during the topic exploration phase. My green tendencies were on full display where I was

advocating for some sort of new artificial intelligence (AI) training model that would help AI end-users get up to speed enough to adequately understand and make decisions based on AI-powered models. Others were more in favor of looking at a more achievable project. In retrospect, we made the right choice for our team as my idea may not have gotten very far (but if it had it would have been awesome!). The selection of the EFMP topic was very important. Each of us had a significant stake in making sure whatever solution we came up with and eventually pitched to leadership was useful, realistic, and helpful. If implemented, we would all have to deal with the repercussions of our work. EFMP is a large program that affects many personnel in the military. It was critical to making sure the specific problem(s) we were working to solve were the problems the Airmen needed us to solve.

To make sure we were solving the problems that needed to be solved we performed empathy interviews with multiple people that had been affected by EFMP in some way. We interviewed some that were enrolled in the program and we interviewed others that were affiliated as some sort of administrator of the program. The prevailing sentiment was that the program was broken and needed to be fixed. While I could write an entire paper on what and why it is broken and our proposed solution to how to fix it, that is not the purpose of this synthesis essay. For that, I recommend reading Lt Col Thomas “Chris” Ward’s research paper he wrote for Air War College.⁵ The influence of the CVF was evident during the empathy interview process as well. As part of the empathy interviews, we each had to interview one person. Alex “Bruw” Hausman is the blue Athlete of our team and was the first out of the gate to schedule his interview.⁶ He was the member of the team most driven to figure out what needed to get done and charge hard to accomplish whatever task that was. Purvi is the yellow Sage of the team. Sages are also Connectors.⁷ She fit right into her role as she began to open the

aperture to other ways we could perform interviews and dig deeper into what the Airmen needed fixed. She spent a significant amount of time connecting and communicating with a Facebook-based EFMP support group. This turned out to be a fantastic addition to our interviews as many of the family members she communicated with via that page had positive experiences. This contrasted with the typical negative experiences that many of the other interviewees had with EFMP. The next time that the CVF played a role in the team interactions was during the ideation phase of the project.

The ideation phase of the project entailed the expansion of alternatives. During the previous step of problem definition, we worked to scope down the project to a specific problem set. After ideation is the time where those ideas “flare” out to come up with an idea for how to solve the problem. At first, we spent time coming up with ideas on how to solve the problem by writing them down on sticky notes and placing them on the whiteboard. Early on during this process, Chris’ engineering tendencies for organization took over and he began to organize the ideas into those that were similar. Soon thereafter we had another class where we continued to ideate but without the restraints of sticky notes. This time we worked to focus our potential solutions down to more possible solutions. My “green” tendencies were very much on full display during this process. I began to write ideas on the board and even at one point began to draw a decision tree on the board to illustrate how we might be able to attack the problem. As an ode to Bill DeMarco, I began to get distracted and came up with a poem that illustrated some of the frustrations about the EFMP program. The title of the poem is “For the want of a retainer!” a play on the poem often attributed to Benjamin Franklin named “For the want of a nail.”

The influence of the individual colors of each person continued to be displayed throughout the remainder of the course. Chris, as our engineer, continued to keep us on track by

typically starting the slides and making sure the message we were pushing made sense. Purvi, as our sage, continued to make sure that we and the project stayed connected and moving in the direction that most benefited the Airmen. Alex, as our athlete, continued to push to make sure we were delivering the best possible solution we could. And I, as the creative, did my best to stay on track, not procrastinate and continue to think big thoughts. I worked to make sure we were coming up with new and innovative solutions to our problem. I am apparently very committed to the grand idea mentality as I was one of the few to jump at the opportunity to travel to Austin, Texas to pitch our project at an AFWERX sponsored contest during the Air Command and Staff College spring break. I truly believe in our project and think that it can make the lives of our Airmen better. It has the potential to increase resiliency and remove some of the stress and anxiety that so many EFMP families experience every time they move. These types of thoughts are exemplary of an “Artist” personality type.

This paper now transitions from a discussion on what most resonated with me to one that provides feedback and overall thoughts on the RTF. My initial thoughts on the RTF are mostly positive. I do not have any regrets in choosing the IbD RTF as my elective. I truly enjoyed the material and its applicability, the interaction with my fellow students and professors, the project we picked, and the “bonuses” we got as a result of our participation. I will attempt to explain each of these in turn before presenting some areas where the program can be improved.

The material and its applicability are some of the best outcomes of this elective. As discussed earlier I plan to take the lessons learned on how to communicate with different personalities and optimize our interactions based on our natural tendencies. Beyond just the personality tests, the knowledge on how to conduct an innovation project from beginning to end is nearly priceless. One of the initial goals of this class was to give us the training to be able to

conduct innovation projects within our future squadrons or groups. We were supposed to be able to build a tool (our tabbed binder) which steps us through how to complete an innovation project. These were all successful endeavors. I now have a tabbed binder that I can hand-off to aspiring young officers or enlisted personnel to guide them through the innovation process. The class really helped me get an innovation mindset. Prior to ACSC, I was at the Air Force Institute of Technology (AFIT) working on an advanced degree and before that in an aircraft maintenance squadron. The term “innovation” was not really part of the vernacular at either assignment. At AFIT you could say we were doing innovative things as part of our research but looking back on it, AFIT itself has not been very innovative. While I was a student there, then Secretary of the Air Force Heather Wilson began a review of AFIT to determine how it could improve and whether it should even stay open. The need for this study arose from faculty that had largely stopped innovating. They had established their various programs and rested on their laurels. They no longer strove to make things better and to stay relevant. AFIT was systemic of many of the programs within the Air Force and of the Department of Defense writ large. They all had largely ceased to innovate. As Elon Musk said during the 2020 Air Warfare Symposium in Orlando, Florida, “If the United States does not use breakthrough innovation, it will fall behind.”⁸ AFIT had fallen behind many of the top-tier research universities in the United States and it took an objective view from Secretary Wilson to realize this and push them to fix it. AFIT began a significant internal review to place it back on the path to success, but as I write this, I wonder if they continued to push the reimagining after Secretary Wilson retired.

Surprisingly, I also never heard the term “innovation” discussed during my time in the maintenance community. In retrospect, this is absolutely shocking! The maintenance community is ripe for innovation, but it has a culture that tends to suppress innovation and new

ideas. It demands strict adherence to technical data and can often punish those who go astray and try to think outside of the box. Furthermore, many of the maintainers I worked with were so overworked they did not have the free time at work to try to come up with innovative ideas. If they had innovative ideas and presented them to leadership, I am not convinced they would have been provided the time and resources to work on their ideas. This was during the 2014 to 2016 timeframe, a time that should have been pushing innovation, especially in the maintenance world. That was during the time when maintenance was reeling from manning shortages due to Reduction in Force (RIF) efforts and a significant exodus of experienced maintainers due to repeated deployments. This should have been the time when they were most interested in creating innovative processes to increase the efficiency and effectiveness of the force. It appears that either my experience was not systemic of the entire maintenance force or it is undergoing change. I am encouraged by my trip to the Air Warfare Symposium where three of the five teams competing in the Spark Tank competition were maintenance teams. One of the maintenance teams even won the competition, albeit they shared the trophy with another team! I plan to take the message of innovation with me when I take command of the 319th Aircraft Maintenance Squadron this summer. I will encourage innovative ideas and reward those that think outside the box. Elon Musk also proposed a way to push innovation in an organization during the Air Warfare Symposium where he said there should be significant rewards for those that try to innovate and succeed, minor consequences for those that try to innovate and fail, and major consequences for those that do not try to innovate. I do not know if the Air Force is ready for this entire approach, but I hope to take elements of it into my command. I hope to reward those that try to innovate and succeed and only give minor consequences, if any, to those that try to innovate and fail. It will be easy to do the former. The latter may be difficult. Too often the

Air Force punishes those that fail at anything. There is much talk about accepting failure and rewarding those that are trying but many, including myself, are often too gun shy to propose new radical ideas that hold a significant risk of failure. An important step in the right direction to correcting this mentality is through forums such as this RTF where likeminded individuals can come together and help thaw the frozen middle.

At the Air Warfare Symposium, many from the Air Force's most senior ranks to include General David Goldfein, the Chief of Staff of the Air Force, and Dr. Will Roper, the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics, were pushing a culture of innovation. Within the ranks, many young Airmen want to innovate and have a plethora of ideas that could revolutionize how the Air Force does business. The issue is "the frozen middle." The frozen middle in the Air Force is largely comprised of Field Grade Officers (FGOs). Too often we become a slave to the process and too concerned about promotion to risk any failures. An unattributed source said that the most dangerous thing for a squadron is a squadron commander in the rank of Major.⁹ The reason behind this is due to risk adversity. Majors cannot retire and therefore will too often not take a risk for fear of being fired. The thought continues that Lieutenant Colonels may be more apt to take risks as they can at least retire. I am sure there are still many stories of Lieutenant Colonel Squadron Commanders that are too risk-averse for fear of hurting their chances of making Colonel, but the theory persists. The Innovators by Design RTF helps to thaw out this frozen middle. It brings together Majors and Lieutenant Colonels in a setting where free thought and risk-taking, albeit with few potential consequences, are encouraged. These people can discuss how to bring innovation into a unit and foster that mindset. We can also learn from some of the industry experts on how best to do that. In short, it opens our eyes. We may not go forth and do much with it but at least we know the methods exist

and know that others may be pursuing similar ventures. The RTF also introduced us to multiple organizations within the Air Force, such as AFWERX, that can help us make innovation happen in our future units. Hopefully, by creating innovation disciples through programs such as this RTF we can spread the innovation virus throughout the Air Force. There needs to be a way to increase the size or even just the access to the message of the RTF so that more can learn and teach others how to innovate. Hopefully, we have some success stories from the projects that were created during the RTF.

The Air Force has a significant issue with resiliency as demonstrated by the theme of all the topics of our RTF. Each team was given the freedom to pick a project they wanted to pursue with no undue influence from the RTF faculty. The amazing thing is that each team picked a project that could easily be tied to increasing resiliency. Some focused more on simplifying typically frustrating experiences we encounter in the Air Force, others focused on creating more of a community, and others focused on making existing leadership resources more readily available to be consumed and employed. Each of these has the common thread of resiliency. The Air Force is too apt to focus on technological solutions to problems when in fact, our most trying problem, the care of our Airmen, does not necessarily require a technical solution. Each of the RTF projects may have technological solutions that augment the overall solution, but they are largely targeted at fixing organizational issues with non-technical solutions. The EFMP project has serious potential for success. There is some significant momentum behind the effort from Congress and the Vice Chief of Staff of the Air Force. On February 5, 2020, Congress held a hearing with all the military services to discuss their failures to fix the EFMP after given explicit direction to do so. There was so much interest in the hearing, the chamber filled up and they had to open an auxiliary room to provide seating for all that wanted to be a part of the

hearing. Congress has called the services to action. The Vice Chief of Staff of the Air Force has responded by issuing his own challenge to leverage technology to solve Air Force problems with the end goal of giving Airmen back their time. In the advertisement, he explicitly calls out EFMP. This could not have been better timing for our EFMP RTF project as we go to pitch our solution for EFMP which proposes to leverage technology and cut through some bureaucratic red tape in Austin. This is one of the multiple “bonuses” that this RTF has made possible.

The Innovators by Design RTF has provided multiple opportunities that will pay dividends in the future for me and for the Air Force. First, as discussed before, we were given access to multiple entities that are doing innovative things around the Air Force. For example, we were introduced to AFWERX, a relationship that I intend to continue to cultivate as a commander. We also had exclusive access to Jeff DeGraff, one of the godfathers of establishing the innovation process and cultivating an innovation environment, to coach us on how to be innovative and how to give a better project pitch. We also had a private audience with Ned Stark (Col Jason Lamb), one of the most strategic pens within the Air Force.¹⁰ Finally, we also heard from multiple other entities from around the military such as Rogue Squadron from DIUx. These direct interactions established relationships that will be extremely useful in future positions when I am trying to cultivate a culture of innovation. We also had the opportunity to attend the Air Force Warfare Symposium. This was an incredible experience where we were able to listen to and interact with defense industry and military leaders. The continual message out of many of them was the need for innovation in order to compete with China and Russia, a refreshing yet sobering message. For me, the message was received. Also, being able to witness the Spark Tank competition was very useful. The teams that presented were very professional and gave me some ideas on how to improve our team’s pitch. Finally, I already discussed the

pitch opportunity that I am taking advantage of in Austin on 10 and 11 March, a fantastic opportunity to pitch the EFMP project to potential industry and military champions.¹¹ This opportunity opened the door to another opportunity. The following day, AFWERX is hosting a Pitch Bowl for Small Business Innovation Research (SBIR). AFWERX asked me to stay and augment their team as a “Technical Adviser” and an “End-User” due to my two Air Force jobs of nuclear engineer and aircraft maintenance officer. In this function, I will be helping AFWERX decide which SBIR Phase I contenders will be allowed to continue into Phase II. Each company that is selected will be awarded up to one million dollars. There is also private investor matching that is included in the award.¹² In this role, I will be helping to promote innovation across the Air Force. While there have been multiple amazing opportunities afforded to me as an Innovator by Design RTF student, there are some areas that could use improvement.

There are a few aspects in which the RTF could improve. An area that could use improvement is the planning for the course. The first two quarters seemed very well planned out with each of the individual coaches having a clear idea of what needed to happen in every class. The planned activities such as the practice event where we did an innovation speed round seemed very well-rehearsed. The readings were also very relevant and frequent during this time. The planning seemed to be less complete in the third quarter. The activities did not seem as polished as compared to the first portion of the course. Also, this may have been out of control of the course leaders, but the continually changing long-term plans, for what I will call “big rocks,” were disappointing. One of the changed big rocks was the internal Air University “Pitch Night” that was discussed. We were told we would first compete against ourselves to determine who the top two teams were. Those two teams would go on to compete against faculty teams that were also preparing to pitch. The pitch audience and judges were still to be determined;

however, we were told that it would be some form of Air University leadership. Unfortunately, the Air University pitch night never happened. This was, in a way, going to be the capstone pitch to place our projects in front of senior Air University leadership in hopes of getting buy-in and maybe even sponsorship. Instead of going out with a bang, though the trip to the Air Warfare Symposium was great, we fizzled with the cancelation of the final pitch competition. This was disappointing; however, I expect the major lessons learned are going to be very useful to me and to the Air Force as I move into future assignments. These recommended improvement areas are more applicable if the course were to stay largely as it is; however, I do have some recommendations on some minor course restructuring that could improve the overall experience.

There are a few areas where the course could restructure that may improve the overall flow and results of the course. Some of these may be repetitive from other students in the class as we have discussed some of these ideas at various times throughout the course. The lessons taught and learned over the course of the three months are invaluable. The majority of the “how to innovate” lessons occurred during the first quarter of instruction. It would be extremely useful to open the first quarter for enrollment to the rest of the student body so that they can be exposed to the bulk of the instruction as well. The course could be restructured slightly so that the core of the innovation lessons occur completely during the first quarter. Those that are taking the entire three-term elective would take the same courses concurrently with the students only taking one term. This would require the forming of teams and the selection of projects to occur at the beginning of the second quarter. This could pay many dividends. It would serve to expand the innovation knowledge in the Air Force. It could also provide more ideas for future course innovation projects. Those students that are only taking the course for the first quarter could articulate potential research problems that the RTF students could undertake during the next two

quarters. Also, by delaying the project selection until the second quarter the projects could be more informed and may be less focused on the woes of the permanent change of station process. By more informed, I mean that there could be more of a variety of potential research projects. Under the current construct, we each picked a project based on our teams' interests. We had to generate ideas from our own shared experiences. The projects could be better and more varied if there were more potential project ideas to select from. There are other ways to increase the pool of potential projects.

Another way to increase the pool of potential projects is to have a list of supported projects generated at the beginning of the class for the teams to choose from. These projects could be supported by any level of potential champions from a base-level initiative like how we increase traffic flow at the gate to Air Force level initiatives such as how we fix some overarching policy or process. This would help with multiple things. First, it would provide a champion to get behind the work and someone to turn it over to at the end of the course, so the project does not die on the vine. Second, this approach provides projects that the Air Force cares about and has a chance of implementing. Lastly, this could provide resources in the form of funding and expertise. One of the reasons that none of the current projects were technology-based is likely due to its difficulty. It is difficult to create a technological-based solution without technological expertise. This would provide the forcing function for technology experts to be available for their projects. The potential negative with this approach if it is adopted wholesale is that it closes off the potential innovative ideas. Sometimes the Air Force does not know that it needs something. If this approach is implemented, then students should still be allowed to pick a "custom" project if they so desire to avoid stifling creativity if they are passionate about a certain topic or idea.

The foundational process of this class of understanding personality types was the topic that most resonated with me. I will carry the lesson of the effectiveness of organizing teams via the CVF in my future assignments and intend to implement it to achieve a higher functioning leadership team as a commander. Air Force innovation is lacking, and this course was successful at teaching someone who was admittedly innovation ignorant before the class to understand the process and become an innovation disciple. With the provided feedback and some of the recommended adjustments, this course can be made available to a wider audience and can have a better chance of developing innovative projects that have a life beyond the RTF construct.

Notes

¹ Jeff DeGraff and Stanley DeGraff, *The Innovation Code: The Creative Power of Constructive Conflict* (Oakland, California: Berrett-Koehler Publishers, 2017).

² Ibid.

³ Ibid., 59.

⁴ Ibid., 74.

⁵ Thomas Ward, “Four Proposed Changes to Improve the Exceptional Family Member Program in the Assignment System (Draft)” (Air University, Air War College, 2020).

⁶ DeGraff and DeGraff, *The Innovation Code*, 94.

⁷ Ibid., 112.

⁸ Elon Musk and John Thompson, Fireside Chat at the 2020 Air Warfare Symposium, February 28, 2020.

⁹ Unknown, Discussion with a peer, n.d.

¹⁰ Col Ned Stark, “Commentary: The Air Force Is Not Designed to Produce Good Leaders,” *Air Force Times*, July 31, 2018, <https://www.airforcetimes.com/opinion/commentary/2018/07/31/commentary-the-air-force-is-not-designed-to-produce-good-leaders/>.

¹¹ “AFWERX Events,” AFWERX, accessed March 2, 2020, <https://www.afwerx.af.mil/events.html>.

¹² Ibid.