



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

## **THESIS**

**UNDERSTANDING A SPECIAL OPERATIONS ROLE:  
NETWORK CARETAKERS OF KNOWLEDGE-BASED  
COMMUNITIES OF PRACTICE**

by

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December 2017

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## **ABSTRACT**

The success of special operations often depends upon building and sustaining relationships with partners. Because of the unconventional environment in which we operate, relationships can also be non-standard, including academics, reporters, and private industry. By creating a community of practice, individuals in special operations may be able to connect groups of subject-matter experts who share a deep interest in a particular activity and, through regular interaction with special operations, learn how to engage more effectively in this activity. The work of this thesis is two-fold: building a Knowledge-Based Community of Practice and applying this design method to the authors' case study of Libya. This research offers a partial solution by bolstering a deeper environmental understanding through the creation of such a Knowledge-Based Community of Practice, consisting of a spectrum of individuals with differing perspectives, to engage in iterated structured dialogues. The structure, design, and life cycle of a community of practice, as well as the types and frequencies of interactions and implications of the post-information age are explored. The design methods are rooted in Army doctrine as a method of structuring interactions and distilling information to local planners. Big data sets are implemented to back-stop information from structured sessions. In short, the authors reflect on the establishment and sustainment of a community of practice to better connect with subject-matter experts who care to bring to bear a more complete understanding of an operational environment prior to, during, or in order to avoid altogether the application of military force.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

ADM	Army Design Methodology
AOR	Area of Responsibility
ATP	Army Techniques Publication
COP	Community of Practice
DOD	Department of Defense
ENI	Ente Nazionale Idrocarburi
EOIS	Events of Interest
ETA	Estimated Time of Arrival
FAO	Foreign Area Officer
GNA	Government of National Accord
ICEWS	Integrated Conflict Early Warning System
IS	Islamic State
JSOC	Joint Special Operations Command
JSOU	Joint Special Operations University
KCOP	Knowledge-Based Community of Practice
LNA	Libyan National Army
NATO	North Atlantic Treaty Organization
SOCAFRICA	Special Operations Command Africa
SOF	Special Operations Forces
SWEG	Special Warfare Education Group
UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UN	United Nations
USAF	United States Air Force
USSOCOM	United States Special Operations Command
VTC	Video Teleconference

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## I. AN INTRODUCTION TO NORTH AFRICA

This fictional vignette describes the efforts of a U.S. Special Operations Force (U.S. SOF) team over the course of a short event—somewhere in the Maghreb—in support of Special Operations Command Africa (SOCAFRICA).

The temperature was continuing to drop—the weather forecast was calling for light snow and for the winds to pick up as the night went on. The loadmaster had a look on his face that said he was ready to get out of the European weather and down onto the continent. While most of what they were expecting was unknown, at least the weather there on the continent would be a little warmer.

It was just after midnight, but the team still needed to work quickly to make sure all their equipment was loaded before the scheduled departure time. The medics and comm guys checked and re-checked their gear before finally strapping it down to a 463L cargo pallet<sup>1</sup> in preparation for the three-hour flight down onto the continent.

From the darting eyes and the inquisitive looks of the loadmasters, you could tell that they thought the C-130 was beginning to get overcrowded with gear. The team commander started to second-guess himself and began to wonder if the team had brought too much. Some of the team guys hastily rearranged equipment. They quickly slid various boxes and containers out of the way to make room for a Polaris MRZR<sup>2</sup> (you know, one of those desert vehicles that is a cross between a golf cart and a vehicle from one of those *Mad Max* films) as it was driven up the ramp and locked into place with heavy-duty tie down chains.

It was getting close to departure time, and the team was making their final preparations. The team commander made another mental note of where he had placed his emergency beacon and blood chit.<sup>3</sup> From everything that the team had read and been briefed on, they were pretty

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<sup>1</sup> The 463L Master Pallet is the main air-cargo pallet of the United States Air Force, which is designed to be loaded and offloaded on military cargo aircraft.

<sup>2</sup> The side-by-side is a small two- to six-person four-wheel drive off-road vehicle. The MRZR is a military version built by Polaris Defense that is used by USSOCOM Components.

<sup>3</sup> A blood chit is concise, prepared message carried by military personnel that is written in several local languages asking for aid and assistance. It is often carried by aircrews and those that are deemed at a high risk of isolation.

sure that the area they were flying into was permissive; however, they'd be foolish to not prepare for the worst-case scenario.

One of the team members attached the small Garmin 401<sup>4</sup> to his wrist, turned it on and then quickly off. He was starting to fidget—it was time to go.

Both the Team Leader and the rest of the team were experienced; they had completed operational deployments before, but nothing like this. They had spent weeks together working towards this mission and knew that their training had been top-notch. This team was a collection of superior trained personnel, a community of professionals who had established relationships with each other based on trust and confidence in their abilities. This trust and confidence were a direct result of their recent training, which without would have led to significant shortfalls hampering cohesiveness, interoperability, and ultimately, mission success.

The team was to train with a partner force—current soldiers of the fledgling country's quasi-functioning army, [declaring] themselves as a special operations force, but this was true in name only. Special Operations Command Africa was skeptical that anyone outside of their leadership had any real experience in the army or had any familiarity with their weapons systems other than what they had learned on the street in the revolution.

The plan was to be there for a week. The team's orders were to survey the area, make initial assessments of the partner force and conduct some very basic training. This meeting was an initial engagement—the team was to verify everything that the partner force had been reporting for the past few months. The overall focus in the future was to build a force capable of conducting raids and large-scale kill-capture missions. Nation building in a counterinsurgency was not a priority.

The ramp lowered as the C-130 slowly rolled to a stop on the tarmac. The recent imagery reports were accurate—the bomb damage at the far end of the runway was still there. The special operators began unstrapping cargo in a hectic, yet choreographed, faced-paced fury. From what they could tell, it looked like the airfield was still asleep.

“Where the hell is he?” the team leader asked in a puzzled and agitated tone. “I told them exactly when we'd be landing.” The flight from their re-

---

<sup>4</sup> A wrist-top GPS built by Garmin that includes a compass, altimeter, and way-point system.

fuel stop in Sicily had gone quickly but the team wasn't early and if anything, they had landed later than they wanted. The sun had just crested over the horizon, and the early morning air was still crisp. The pilots came on the radio: "What's your ETA with getting everything unloaded and this survey complete?" They had not planned on shutting down their engines and were looking for a better idea of just how long they were planning on being on the ground. As soon as the pilot finished with his radio traffic, the team drove the M-RZR down the ramp, checked the M-240<sup>5</sup> that was attached to the passenger side and made a quick turnaround to collect their passengers and start on their initial survey of the runway.

From previous reporting and satellite imagery, it was apparent that this area had seen fierce fighting. If future missions were to come into this airfield, it was critical that the team who just landed get an accurate survey of the runway and its condition.

The attached USAF combat controller and his security element were the first ones off the Aircraft. They loaded onto the M-RZR in their rehearsed order and set off for the far end of the runway. Their plan was to have the entire runway surveyed in twenty minutes and then get back to the waiting C-130 for it to depart with combat controller for a follow-on mission.

The team leader and his communications sergeant began setting up their satellite communications system, while the other members of the team continued to unload their gear from the aircraft and set up an initial security perimeter. As briefed in their communications plan, the team leader tuned to the appropriate frequency and contacted Special Operations Command Africa; he passed the brevity code to let the command know that they had landed safely and had begun their initial survey. At the same time, the team leader pulled out his Android cellphone, pulled the back off it, and replaced his German SIM card with one from the country they had just landed in.

He turned the phone on and scrolled through his contacts and pressed "call" when it landed on the correct one. He held the phone up to his ear: "As-salāmu 'alaykum, sayidi...hello Sir, we are here."

The team that had just landed was part of a larger force that was conducting missions in other countries on the continent. But this country

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<sup>5</sup> The M240 machine gun is the U.S. military designation for a group of belt-fed, gas-operated medium machine guns that chamber the 7.62×51 mm NATO cartridge.

was different and relatively unknown. U.S. forces hadn't been in the country for almost two years, and the loyalties of the tribes and militias had shifted. Control of the area had changed hands several times since the revolution, and the intelligence analysts in Germany thought they understood the ground truth and that the area the team was going into was in the hands of the National Army.

The airfield was chosen because of its unique characteristics: it was in a relatively isolated location from major population centers, but still close enough to the capital so that the National Army forces could rapidly respond to what seemed to be more frequent calls for assistance as the country remained embroiled in a constant state of conflict.

The Partner Force Commander and a few of his senior enlisted men met the U.S. team on the edge of the tarmac. "Hello, my friend!" the North African officer exclaimed as he reached for the American commander to pull him into a tight embrace that is customary in many Middle Eastern and North African countries. Even though the two had never met in person, their many conversations had given them a unique foundation for their partnership.

The Partner Force Commander's radio crackled in Arabic. He relayed an order to his men that had arrived as the quartering party, and a few of them jogged over to their truck to carry out his request. One was busy texting on his phone while the other gave orders over the radio. "I have sent for more vehicles, my friend," the commander boasted in a manner meant to convey confidence and his authority. "They will be here most quickly to help move your equipment."

Before their departure from Germany, the Team Leader had been briefed directly by the Special Operations Africa Commander about the political dynamics of this mission. For the most part, these dynamics did not reach all the way down to the tactical level, but they had huge diplomatic implications that did extend all the way to the United Nations. Only by attempting to adhere to a convoluted system of recently established embargoes and sanctions was it possible for the team to move forward with their mission in a situation with so many conflicting interests and guidelines. The political mess had been building for months—to the point that, on more than one occasion, the mission had been put on hold.

The trucks arrived in a cloud of dust, and their occupants moved about quickly to help the team secure their gear and get it off the runway quickly. In a nervous fidget, the Partner Force Commander kept glancing

at his phone and would then bark at his men to move faster. The Team Leader began to feel uneasy and whispered to his team sergeant, “What does he know that we don’t?”

The Team Leader pulled his satellite phone from his small day pack and dialed a number to the command operations center to get the latest intelligence updates. The intelligence section at SOCAFRICA had been scrolling through the latest social media posts, looking for any indications that the situation on the ground was about to change. In the past, leveraging social media to gather atmospherics had been used for mission planning but never during the mission. With the advancement in network analysis tools, this could now be done at almost real-time, but like most machine-based learning, it was only as good as the information out there.

The Partner Force Commander began to pace around, rarely taking his eyes from his cellphone. He would look up, gaze off into the distance and then quickly resume his nervous walk. There was a look on his face as if he wanted to tell the Americans something, but he could not quite bring himself to do so. “What’s up?” The Team Leader asked. “*Maku moshkela*, there is no problem,” was the Partner Force Commander’s reply as his eyes continued to dart back and forth across the screen of his smartphone. “But I think we should go inside.”

By now the Team Leader knew something was awry—he made some quick hand movement to his section leaders that, after 18 months of training together, they understood intuitively. The Partner Force Commander looked at his phone and then quickly raised his head and looked to the south. The Team Leader followed his gaze as, off in the distance, maybe no more than five kilometers, dust trails began to emerge from a large group of vehicles moving rapidly toward their position at the airfield. “I guess that isn’t our problem,” the Team Leader remarked snarkily.

The UAV<sup>6</sup> that had been overhead watching the interaction between the team and the partner force had noticed the group of vehicles approaching. The satellite radio that had been set-up earlier crackled to life: “Zulu-one-zero, this is Flintlock, be advised you have approximately 15 technicals<sup>7</sup> approaching your position from the south. We are unsure of identity or intent at this time.”

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<sup>6</sup> An unmanned aerial vehicle (UAV) more commonly known as a drone.

<sup>7</sup> A Technical is typically an open-backed pickup truck that has been converted into an improvised fighting vehicle by mounting a machine gun, or other support weapon, to the bed.

“Damn it!” The Team Leader yelled in frustration. “SOCAFRICA has no idea who they are.” His gaze turned to the Partner Force Commander, looking for an answer.

“They are not the army. More like a *katiba*...ah...ah...as you say in English—a militia.” The commander’s voice trailed off with a hint of despair. “They are not in favor of you being here and will want to talk.”

Most of the U.S. team had moved into a building near the airfield and had begun to hastily fortify their position in preparation for the unexpected. It was now clear that, while the National Army was on the airfield, they were not the ones in control.

As soon as the first of the technicals pulled to a screeching halt, its passenger door flew open, and a man in a hodge-podge uniform stepped out and began yelling loudly in Arabic. His eyes turned to the Americans as he relayed orders over his handheld radio. The Team Commander was doing his best to hold a quickly deteriorating situation together when another technical pulled up in front of their position. The wild-eyed militiaman in the rear of the vehicle racked back on the 12.7mm DShK<sup>8</sup> and pointed it directly at the team’s position.

The scenario described above is fictional; however, it is based on the analysis of research, and founded on real-world missions and experiences. This short vignette highlights the key conclusions of this research and identifies how the challenge—to better connect with subject matter experts who both possess knowledge and care to bring to bear a more complete understanding of an operational environment prior to, during, or in order to avoid altogether the application of U.S. military force through the creation of communities of practice focused on this deeper environmental understanding, thereby setting up a path to success with the assistance of U.S. Special Operations Forces (SOF).

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<sup>8</sup> The DShK 1938 is a Soviet, heavy-machine gun firing a 12.7×108 mm cartridge. The weapon is a particular favorite for mounting to technical vehicles. It is sometimes nicknamed *Dashka*, from its abbreviation.



## II. THESIS INTRODUCTION

The authors apply the concept of a Community of Practice (CoP) to better understand dynamic operational environments such as exist in Libya. Etienne Wenger defines a Community of Practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this by interacting on an ongoing basis.”<sup>9</sup> The authors cultivate their own CoP as a method to address the problem statement below:

How does theater Special Operations Forces (SOF) create stronger connections with people who have a deep and current knowledge of a place, its inhabitants, and dynamics in order to bring to bear a more complete understanding of an operational environment prior to, during, or in order to avoid altogether, the application of U.S. military force?

The authors acknowledged and worked within the following constraints:

- Avoid formal incentives to create a CoP
- Avoid adding new positions or billets to create a CoP
- Avoid duplicating efforts of existing organizations
- Recognize the tendency for knowledge networks to coalesce after crises

The authors chose Libya as their case study because its current situation is complex—rival factions, often sponsored by rival nations and nefarious networks, competing for domination. Libya can be considered a “strategic arena,”<sup>10</sup> in which great powers seek to draw Libya into their sphere of influences. The introduction of U.S. military forces into this protean environment contains many risks which will be addressed hypothetically in the form of a vignette.

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<sup>9</sup> Etienne Wenger, Richard A. McDermott, and William Snyder, *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Boston, Mass: Harvard Business School Press, 2002), 4.

<sup>10</sup> Jeffrey Martini, Erin York, and William Young, “Syria as an Arena of Strategic Competition,” March 2013. [https://www.rand.org/pubs/research\\_reports/RR213.html](https://www.rand.org/pubs/research_reports/RR213.html).

In Chapter III, the authors further define a Knowledge-based CoP, rooting the concept in business literature and current discussions within the U.S. SOF. The authors cover the notion of cultivating a Knowledge-based CoP and the collaborative nature of that entity, listing certain key concepts regarding the cultivation, establishment, and maintenance of a Knowledge-based CoP. Next, the authors discuss the cultivation process, outlining its costs and then describe conditions conducive to the growth of a Knowledge-based CoP. In addition, the authors cover a modification to Wenger's, McDermott's and Snyder's five-stage model into a four-stage model: create, cultivate, disseminate, and maintain. Finally, the authors describe their journey of building a Knowledge-based CoP in a section titled, From Theory to Practice.

The authors hypothesize that in a place such as Libya—a vast and complicated country with a rich history and culture, yet awash with numerous factions and shifting allegiances—typical intelligence reporting and knowledge management practices prove inadequate. To better understand an operational environment, the authors create their own Libya-focused CoP, consisting of a variety of individuals with different points of views. Chapter IV establishes an academic foundation for creating what the authors define as a Knowledge-Based Community of Practice (CoP), a community of practice focused on understanding a problem set rather than a collection of people sharing best practices and methods. The authors address the structures, design, and life cycles of such a Knowledge-based CoP, specifically touching on concepts such as a “network caretaker,” the person who creates and maintains the CoP; what a mature CoP looks like in terms of network analysis; and the tendency of a CoP to dissolve with the yearly transitions of military billets. Next, the authors address the types and frequencies of interactions, explaining the need to distinguish between “makers and managers,” and that managers run an organization, while the makers inform it. Finally, the authors hypothesize that the analysis of big data sets can serve as a back-stop for information distilled from iterative design sessions with the Knowledge-based CoP.

Chapter V covers a series of design sessions with the newly-created, Libya-focused Knowledge-based CoP. The goal of this design series was to frame Libya's current strategic environment by examining third country activities and interests inside

Libya. The authors used the Army Design Methodology, as outlined in Army Techniques Publication (ATP) 5-0.1, as a template to guide design sessions. Over the course of four separate design sessions, the authors reflect on the structures and types of interactions, the frequency of those interactions, implications of the post-information age, and a Knowledge-based CoP in action.

Chapter VI covers the application of large databases to serve as a back-stop to the results of the design sessions conducted by the Knowledge-based CoP. Whereas the design sessions are rich in content, they are weak in apodictic measures. By applying certain metrics, namely Total Degree Centrality,<sup>11</sup> the authors confirm how to better construct these design sessions. In other words, with a design series covering third country actions and activities in Libya, the Total Degree Centrality metric showed France as having the highest score in the period from 2010–2017, which indicates that perhaps an entire session ought to be devoted to France’s activities and interests in Libya. The authors conclude that Information gleaned from iterative design sessions can over or under emphasize the roles of certain actors. The authors demonstrate through use of large data-sets that data can be used as a course correction to unintentional group think and the propensity to focus on certain topics that may dominate discussions.

The conclusion offers practical recommendations for implementing a Knowledge-based CoP specifically, recommendations for the lowest echelon of command from which such a CoP could be most effectively used, followed by a discussion of the costs, incentives, and risks (operational security) associated with the cultivation of a Knowledge-based CoP. The authors will also describe the role of large data sets in planning the design sessions and the risks associated with ignoring the use of large data sets to orient the Knowledge-based CoP.

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<sup>11</sup> Sean F. Everton, *Disrupting Dark Networks* (New York: Cambridge University Press, 2012), 207. Over the course of a 12-week period, the authors were introduced to concepts in Everton’s book to include degree centrality, which can loosely be defined as the number of ties that a node has.

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### III. CALL ME, MAYBE?

The SOF team described in the introduction survived the day because of their training. Although well-trained, however, this SOF team's training could not create a successful mission. This paper offers a partial method to bolster a deeper environmental understanding through the creation of communities of practices, consisting of a spectrum of individuals with differing perspectives, to engage in certain, iterative structured dialogues. Through the course of nine months of researching and intensive networking, the authors established an academic foundation for a Knowledge-based Community of Practice (CoP) and, in this study, share the best practices of the cultivation of a CoP, while pursuing a more complete understanding of dynamic and uncertain operational environments. Finally, this thesis explores the structure, design, and life-cycle of such communities, types and frequencies of interactions, and implications of the "post-information age."

This chapter covers the challenges associated with creating a Knowledge-based CoP, the importance of collaboration and its ability to lead to enhanced environmental understanding; and the process required to create such a community. Introduction

Marine Corps LtGen Vincent R. Stewart, director of the Defense Intelligence Agency (DIA), alluded to the importance of military planners being able to enhance and accelerate environmental understanding to enhance the effects of the employment of U.S. military forces. In his written testimony to Congress, LtGen Stewart stated, "Adversaries have studied the American way of conflict and have developed, and will continue to develop, capabilities to mitigate or directly challenge longstanding U.S. military dominance in all warfighting domains—terrestrial, maritime, air, space and cyber—and to raise the level of complexity and risk to the United States for intervention in conflict."<sup>12</sup> The authors hypothesize that a Knowledge-based CoP is a method to rapidly gain knowledge on complex topics, and manage this knowledge in dynamic situations. A

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<sup>12</sup> Vincent R. Stewart, Lieutenant General, USMC, "Statement for the Record: Worldwide Threat Assessment to the Armed Services Committee" (speech, United States Senate. Defense Intelligence Agency, Washington, DC, May 23, 2017).

Knowledge-based CoP is an entity that creates the right environment for social learning, which can help to bridge the gaps between the U.S. SOF and academia, leading to an enhanced and accelerated environmental understanding.

Phase Zero<sup>13</sup> security challenges present unique complications U.S. policy interests in the current world dynamic. Countless numbers of doctrine, publications, and models are available to describe the states of conflict and peace—and through these, demonstrate how to leverage instruments of power to meet these crises. One is less likely, however, to find doctrinal publications informing special operations leaders on the best practices of developing pre-existing friendly networks so to understand security challenges before they become crises. The U.S. no longer operates uncontested. Other countries project elements of their national power into security vacuums, to varying degrees and at different times. Such areas of international competition have been declared “Strategic Arenas.”<sup>14</sup> To better protect, project, or inform U.S. national interests, the U.S. SOF must develop an understanding of why things are happening in these arenas.

Within today’s battlefields, organizations, governments, teams, and unique entities must find new ways to work together. Interorganizational sharing and collaboration are critical as more and more areas of the globe become contested areas—in a state just short of conflict. Adversaries continuously invent techniques and procedures to win in the Gray Zone<sup>15</sup>—and they refine these procedures so that the United States and its allies remain in Phase Zero and never fully enter into the armed conflict in which they have a clear tactical advantage.

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<sup>13</sup> Department of Defense, *Doctrine for Joint Operations*, Joint Pub 3–0 (Department of Defense, 2017), V-13. Joint Publication 3-0 defines shaping as “actions that help set conditions for successful theater operations. Shaping activities include long-term persistent and preventive military engagement, security cooperation, and deterrence actions to assure friends, build partner capacity and capability, and promote regional stability. They help identify, deter, counter, and mitigate competitor and adversary actions that challenge country and regional stability.”

<sup>14</sup> Martini, York, and Young, “Syria as an Arena of Strategic Competition.”

<sup>15</sup> General Joseph Votel, (statement, House Armed Services Committee, Washington, DC, March 18, 2015). In his statement, General Votel, Commander of U.S. Special Operations Command, roughly defined the “Gray Zone” as conflict that involves some aggression and use of force as well as ambiguity about the ultimate objective, the participants and the role that military forces should play.

Special Operations planners must view the cultivation and creation of cooperative relationships with other agencies, academia, professional associations, and public entities within Phase Zero as critical roles and components to outmaneuvering adversaries. Cultivating a Knowledge-based Community of Practice expands and deepens one's understanding of an environment, enabling a more effective application of U.S. military and additional resources.

While a CoP may take many different forms, many would agree with Wenger's, McDermott's and Snyder's definition:

... groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis...As they spend time together, they typically share information, insight, and advice. They help each other solve problems. They discuss their situations, their aspirations, and their needs. They ponder common issues, explore ideas, and act as sounding boards...However they accumulate knowledge; they become informally bound by the value they find in learning together.<sup>16</sup>

U.S. SOF can improve its ability to operate in "Strategic Arenas" by reshaping friendly networks and building Communities of Practice—so that the U.S. SOF can better connect with people who both possess knowledge and care to bring to bear a more complete understanding of an operational environment prior to, during, or in order to avoid altogether, the application of military force. The following constraints are acknowledged:

- Engaging without formal incentives to form such a community
- Not creating new billets/positions/additional groups of people to form such a community
- Avoiding duplicating existing organizations (JSOU, SWEG)
- Surviving the yearly/bi-yearly transitions of military billets and State Department postings

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<sup>16</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice* (Boston: Harvard Business Press, 2002), 4.

- Acknowledging the tendency for communities of practice to be formed in response to crisis, rather than before a crisis

The authors coin a new term to specify the application of Wenger's concept—a Knowledge-based Community of Practice (CoP), a purpose built to better understand an operational environment and maintain active knowledge management of the environment by digesting ongoing developments.

#### **A. AN ABILITY TO UNDERSTAND THROUGH CULTIVATION AND COLLABORATION**

Jay Galbraith describes traditional business methods as they apply to organization design and states as generally focusing on a few key items: “the design of formal systems and structures to address environmental demands, task uncertainty, and individual needs.”<sup>17</sup> Hammer and Champy in their work, *Reengineering the Corporation*, go on to describe this method as an ability to “leverage the power of data, systems and information technology.”<sup>18</sup> While these methods of organizational design are reasonable and effectively address systems as they relate to the business world, a gap still exists within the description of the method of development of communities of practice that span across the diplomatic, military, civilian, and academic spectrum. Cal Pava explains that these works “do not address the dynamic, nonlinear, boundary-spanning nature of knowledge work conducted by members of discretionary coalitions.”<sup>19</sup> Therefore, more of an emphasis needs to be placed on bridging the gap between these discretionary coalitions, so that SOF can make better use of non-standard relationships such as academia and professional associations.

The cooperative relationship created by such a CoP offers unique insights and opportunities to gain understanding, solidify relationships between existing partners, and

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<sup>17</sup> Jay Galbraith, *Organization Design* (Reading, Mass.: Addison Wesley Publishing Company, 1977), 36.

<sup>18</sup> Michael Hammer and James Champy, *Reengineering the Corporation: A Manifesto for Business Revolution*, Rev Upd ed. (New York: Harper Business, 2006), 89.

<sup>19</sup> Calvin Pava, “Redesigning Sociotechnical Systems Design: Concepts and Methods for the 1990s,” *The Journal of Applied Behavioral Science* 22, no. 3 (July 1, 1986): 215, <https://doi.org/10.1177/002188638602200303>.



build trust between new ones. These non-standard relationships and exchanges between academia, other non-standard associations and the DOD provide opportunities for collaboration without the high level of oversight that often accompanies misapplication of shared consciousness that will be described in Chapter IV.

These engagements and activities build knowledge groups that, when sustained, “connect participants in ways that can become deeper than more abstract similarities regarding personal features or social categories. In this sense, a community of practice can become a very tight node of interpersonal relationships.”<sup>20</sup>

The authors of this thesis assumed that this gap in information and understanding can be filled by cultivating something similar—a Knowledge-based Community of Practice (CoP) to bring to bear a better, more complete understanding of operational environments.

## **B. KNOWLEDGE-BASED COMMUNITY OF PRACTICE: KEY CONCEPTS**

- A Knowledge-based CoP is a network of individuals, groups, brokers and boundary spanners.<sup>21</sup>
- A Knowledge-based CoP can help to forge non-standard relationships.
- A Knowledge-based CoP must be sponsored or strongly incentivized, cultivated and maintained.

## **C. BUILDING A KNOWLEDGE-BASED COMMUNITY OF PRACTICE**

Building a Knowledge-based Community of Practice requires both sequential and non-sequential approaches. There is no blueprint to build a Knowledge-based COP and the construction of one will require persistence. Some would argue that such communities should be self-forming and informal and that “they will develop on their

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<sup>20</sup> Etienne Wenger, *Communities of Practice: Learning, Meaning, and Identity*, 1st ed. (Cambridge: Cambridge University Press, 1999), 76.

<sup>21</sup> Michael L. Tushman, “Special Boundary Roles in the Innovation Process” *Administrative Science Quarterly* 22, no. 4 (1977), 587–605. doi:10.2307/2392402.22. In his work, Tushman describes boundary spanning as individuals within a system who have, or adopt the role of linking the organization’s internal networks with external sources of information.

own and many will flourish, whether or not the organization recognizes them.”<sup>22</sup> However, the authors’ experience has shown that successful cultivation and maintenance of a CoP is incredibly labor intensive, and is not something that automatically forms without active involvement from the network coordinator and the sponsorship and active involvement of its members.

High levels of energy and resources are required to create, grow and sustain a Knowledge-based CoP. In their work, “The Truth About Building and Maintaining Successful Communities of Practice,” Garcia and Dirohovich state:

Successful communities are more likely to emerge when there is a systematic process for establishing, growing, and sustaining CoPs in a business setting; and viable CoPs in the work place need structure, direction and help to set a solid foundation for success.<sup>23</sup>

The Knowledge-based CoP will ebb and flow through cycles as it gains and loses the levels of support and interest it needs to be of value. Therefore, the network caretaker must be cognizant of the stages of the Knowledge-based CoP in its development process and, through this cognizance, can best understand how to sustain, maintain and continue to grow the community.

#### **D. CREATE, CULTIVATE, DISSEMINATE, MAINTAIN**

In creating a Knowledge-based CoP, the authors built one focused on the deeply complex situation in Libya. To do this, they modified Wenger’s, McDermott’s and Snyder’s five-stage model of “potential, coalescing, maturing, stewardship and transformation”<sup>24</sup> into a four-phase model: create, cultivate, disseminate, and maintain as shown in Figure 1.

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<sup>22</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 12.

<sup>23</sup> Jill Garcia and Michael Dirohovich, “The truth about building and maintaining successful communities of practice,” *Defense Acquisition Review Journal* Volume number 12 (Dec 2005), 18.

<sup>24</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 68.

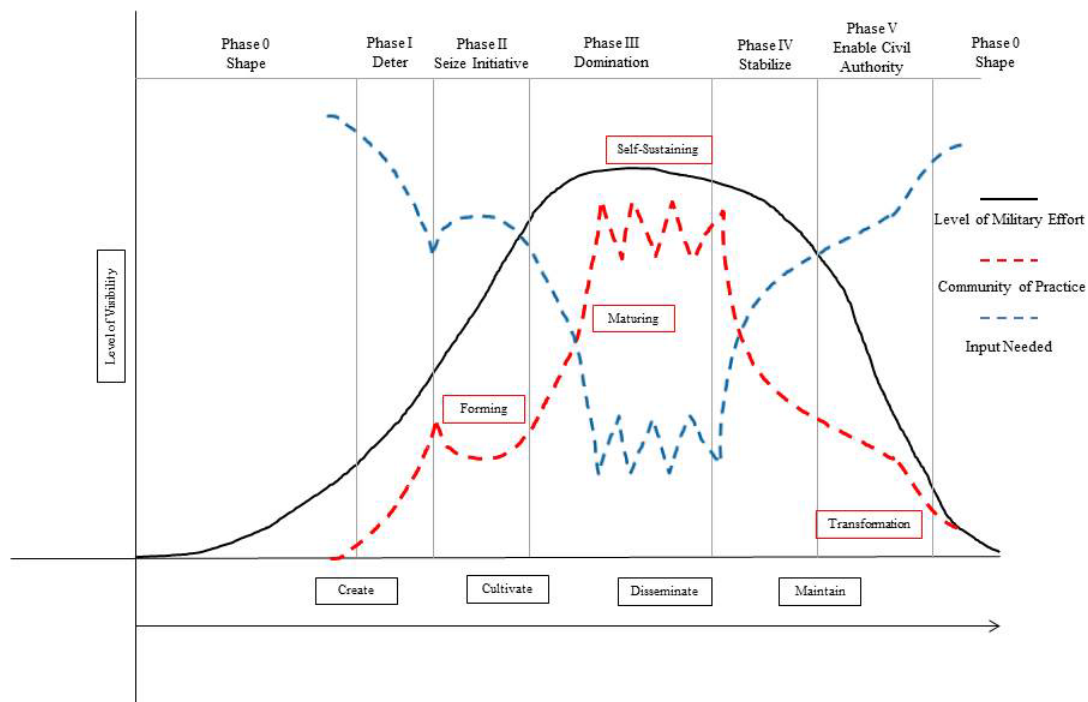


Figure 1. An Adaptation of the Operational Planning Phases, Wenger's, McDermott's and Snyder's Five-Stage Model<sup>25</sup> and Webber's Stages of Communities of Practice<sup>26</sup>

While some may argue that the name change is merely semantics, the authors emphasize that, while these organizations may exist, they do not exist with adequate connections to make them relevant to the application as a bridging tool between the U.S. SOF and non-standard entities.<sup>27</sup> Second, the cultivation aspect of a Knowledge-based CoP is significant. A considerable amount of time, effort, and resources must be put into the cultivation of such a community, so much so that the unit commander must be made aware of the potential associated costs of establishing one. Dissemination and transfer of important information must be viewed as a critical component of a Knowledge-based CoP. This step in the process is necessary for critical activities such as accelerated learning

<sup>25</sup> Wenger, McDermott, and Snyder, 68.

<sup>26</sup> Emily Webber, *Building Successful Communities of Practice* (London: Blurb 2017), 19.

<sup>27</sup> For the purpose of this thesis, we define non-standard entities as individuals or organizations that do not necessarily fit into the standardized military structure.

and rapid understanding of a complex situation—essentially, the adage which expresses, “What do we not know that we need to know, who knows it and how do we capture it.” Last, for a community to sustain a high performance, leadership and sponsorship must take an active maintenance role in the continuity of the Knowledge-based CoP. This maintenance can help ensure that the Knowledge-based CoP will continue to provide value to its members and sponsors.

## **E. FROM THEORY TO PRACTICE**

As an experiment to bridge a gap between U.S. SOF and non-standard entities, the authors cultivated a Community of Practice focused on the dynamic, complicated situation in Libya. The goal of the experiment was simple: to put the previously mentioned theories into practice in a deliberate way. As O’Dell and Grayson mention in their book, *If We Only Knew What We Know*, the authors felt it was critical to ensure that the infrastructure of this initial Knowledge-based CoP included the “transfer-specific mechanisms” put in place to ensure best practices flowed across the community.<sup>28</sup> Several steps were needed to necessitate the construction of this Knowledge-based CoP, including the identification of its leadership and members, its vision, the purpose of the community, the definition of its scope, and prioritization of our efforts.

Focusing on identifying the initial types of members in the CoP became a priority. When thinking about the initial make-up of the CoP, we wanted to invite participants from an array of groups that would likely have differing viewpoints; complex situations existing in Libya require a deep understanding to get to the heart of an issue. Much as Schon states in his work, *The Reflective Practitioner*, “Let us search, instead, for an epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict,”<sup>29</sup> we wanted to focus on the community’s design so as to create a social

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<sup>28</sup> C. Jackson Grayson and Carla O’Dell, *If Only We Knew What We Know: The Transfer of Internal Knowledge and Best Practice*, 1<sup>st</sup> ed. (New York: Free Press, 2012), 107.

<sup>29</sup> Donald A. Schon, *The Reflective Practitioner: How Professionals Think in Action*, 1st ed. (New York: Basic Books, 1984), 49.

structure that would encourage learning and continuously refine its process to truly become a learning organization.

A well-designed learning organization will incorporate many different levels of participation. Wenger, McDermott, and Snyder focus on five levels of involvement that vary in degrees of participation within a CoP: “Core, Active, Occasional, Peripheral, and Outside.”<sup>30</sup>

As our original vision of this group was a small, super-connected one, we felt that the community would likely consist of core members or those people who we felt would take an active leadership role in the formation and establishment of the group, and, therefore, we limited the numbers of other types of participants.

Using search engines, social media platforms, and connections through academic outreach programs, we identified several core group members who we felt would regularly participate in active and lively discussions. These initial members included academics with a narrow focus on Libya; reporters who had spent a considerable amount of time in the country; students with a research focus on neighboring countries and their influences on Libya; and bloggers who were tied into numerous social media reporting networks.

This initial group, therefore, was made up of people who exhibited certain attributes<sup>31</sup> that encouraged and established an environment promoting collaboration and were willing to tolerate various differing viewpoints. This diversity, in turn, promoted a sense of team learning—or the ability to, as Marquardt describes in *Action Learning in Action*, “generate knowledge through analysis of complex issues, innovative action, and collective problem-solving.”<sup>32</sup>

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<sup>30</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 55.

<sup>31</sup> Michael J. Marquardt, *Action Learning in Action: Transforming Problems and People for World-Class Organizational Learning*, 1st ed. (Palo Alto, CA: Alexandria, VA: Davies-Black Publishing, 1999), 32. Marquardt states that “learning programs tend to be most effective when the group members exhibit the following attributes: Commitment to solving the problem, ability to listen and questions self and others, willingness to be open and to learn from other group members, value of others and respect for them, commitment to taking action and achieving success, and awareness of own and others’ ability to learn and develop.”

<sup>32</sup> Marquardt, 289.

Watkins' and Marsick's model, as shown in Figure 2, highlights the importance of a small core group who can self-train and provide mentorship. The center of this model is the overlap—the area where a small group like the one assembled can attain the benefits of a learning organization, which according to Van Der Vegt and Bunderson, will allow the Knowledge-based CoP to learn from their different perspectives and then transfer them into action.<sup>33</sup>

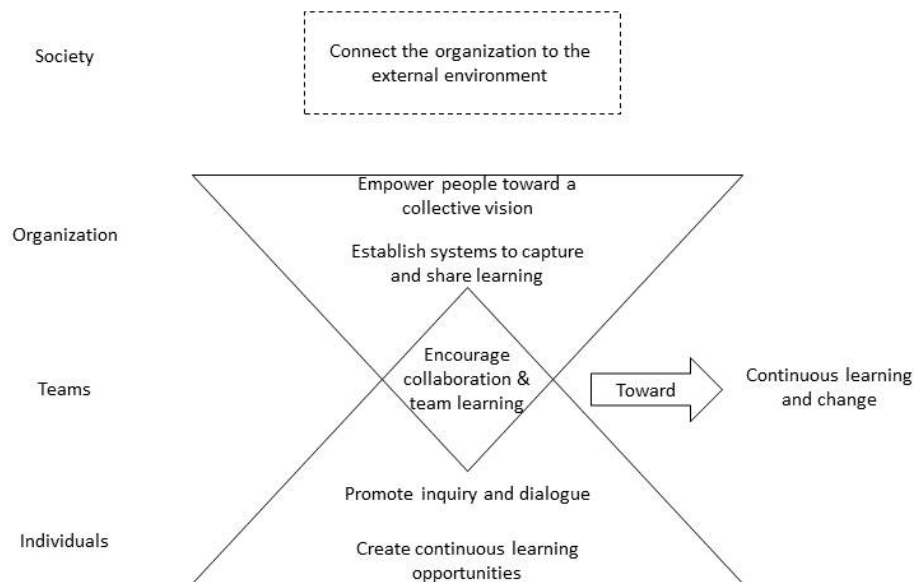


Figure 2. Adaptation of Watkins' and Marsick's Team Learning Model<sup>34</sup>

This continued interaction between the core group members then led to an open dialogue that encouraged open, frank discussion and provided “sense-making” vice actual decision-making. This is an important distinction because as Weick alludes to in *The Social Psychology of Organizing*, the idea of “sense-making is used to focus attention on

<sup>33</sup> Gerben S. Van Der Vegt and J. Stuart Bunderson. “Learning and Performance in Multidisciplinary Teams: The Importance of Collective Team Identification,” *The Academy of Management Journal* 48, no. 3 (2005): 532–47.

<sup>34</sup> Victoria J. Marsick and Karen Watkins, *Informal and Incidental Learning in the Workplace*, 1st ed. (London: Routledge, 2015), 21.

the largely cognitive activity of framing experienced situations as meaningful.”<sup>35</sup> The intent behind the inquiry sessions should not be about finding solutions but about learning and attempting to develop a deeper sense of understanding and figuring out how your inquiry relates to what you are trying to achieve. The process needs to be a collaborative effort which creates a connected awareness that will develop and refine understanding out of distinctive members’ viewpoints and varied levels of expertise.

An additional component that was examined was time involved, including the tempo of the meetings. As this Knowledge-based CoP was largely voluntary, we wanted to encourage frequent communications, to the extent in which standards and procedures are learned between members of the community, but members remain keenly aware of their personal time commitments. The key to success in many such communities is to find the right balance that will build excitement and trust among the members, improve synchronization, and still allow for a natural ebb and flow of participation.

The final component of this framework was a test of a platform for knowledge dissemination. Ideally, we would be able to identify ways to capture the results from the initial inquiries, distill, codify, and then disseminate the results in an active process that would communicate the Knowledge-based CoP results to interested parties. This step in the process demonstrates the value of the community and how U.S. SOF can collaborate with non-standard entities to produce tangible content focused on dynamic problems.

## **F. CONCLUSION**

This chapter has described and expanded upon a Knowledge-based Community of Practice framework based on the formation of an experimental CoP. The construction of this Knowledge-based CoP demonstrates that this process is evolving and dynamic and must be viewed as a constantly evolving process.

The method used to develop this framework and refine its steps is by no means the final step in this process. A Knowledge-based CoP needs to continually evolve and modify its process and procedure. A Community of Practice is not a panacea; merely

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<sup>35</sup> Karl E. Weick, *The Social Psychology of Organizing*, 2nd ed. (New York: McGraw-Hill Humanities/Social Sciences/Languages, 1979), 97.

forming one is not going to result in an optimal learning organization. What it can provide is a viable option for organizations to bridge gaps in order to achieve deeper, contextual knowledge.

The next chapter discusses the authors' views and thoughts surrounding the academic foundation of forming a Knowledge-based Co P. It will cover structure, design, and an emphasis on the importance of the network caretaker.



## IV. IF ONLY WE HAD...

In an operations center, a group of military officers gathers around a large table with a sprawling map to discuss the challenges and potential pitfalls of their operation. Crouching over their maps and intelligence reports, they look at militia linkages, tribal alliances, and influences of external actors. They analyze courses of action and elaborate on the possibilities of what could be the most dangerous option. Alternatives are proposed, and assumptions are made, so that these staff officers can continue to plan and recommend what they think is the proper solution to their boss. In Washington, D.C., a group of academics who work for different think-tanks and various government agencies focused on the same region meet to discuss a similar problem. They express understanding as they discuss the difficulties and challenges of such a dynamic and fluid situation. They ask questions of each other's reasoning and offer possible alternatives. Their sessions are, more often than not, complex, challenging, and emotionally charged.

The military planning sessions of the staff officers—intelligence driven and likely out of necessity or response to a crisis—are very different from the deeper, contextual understanding approach of the academics in Washington, D.C.,. Regardless of their differences, both sessions are relevant, meaningful, and a critical first step in framing the operational environment by providing context to a wider audience. The consequences of these sessions, however, could not be more different: one academic and one with a potential to end lives.

How can these two entities be connected and their drastic cultural gaps be bridged? Can a Community of Practice be created and cultivated to bring them together? Although many factors, like command interest, and the “crisis du jour,” can inspire a community, nothing can replicate “long periods of fertile solitude,” which result in the generation of critical thought.<sup>36</sup>

This chapter covers the academic foundation of a Knowledge-based Community of Practice. First, the authors argue that the best way to obtain understanding of an area is through the Dialectic, which engages both the transmitter and receiver of information. Next, the authors describe the phenomena of *philia*, the adhesive element in a voluntary

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<sup>36</sup> Virginia Heffernan, “Meet is Murder,” *New York Times*, February 26, 2015.

organization like a Knowledge-based CoP. Then the authors address the structures, design and life-cycles of a Knowledge-based CoP, emphasizing the key concept of a network caretaker. This is followed by a section discussing the types and frequencies of interactions, specifically the necessary distinction between “makers and managers.”<sup>37</sup> Finally, the authors caution against the misapplication of the managerial style known as McChrystalism, and then suggest that large data sets can confirm or deny assertions made and conclusions drawn, following interactions with the Knowledge-based CoP.

Information is static, and the volume of it is overwhelming, whereas understanding is dynamic and requires a different, albeit more intuitive, mechanism (versus knowledge management and intelligence estimates). The concept of the Dialectic, as introduced by Greek philosopher Plato in *The Republic*, is how one reaches “the summit of the intelligible world...through discourse of reason...to make his way in every case to the essential reality. This journey is what we call Dialectic.”<sup>38</sup> True understanding comes from a continuous dialogue among people who intrinsically care about the topic, and seek information about a place, its inhabitants, and dynamics surrounding both.

Attempting to achieve the Dialectic through thoughtful discourse with people who, for various reasons, are interested in a place, becomes the reckoning process by which a SOF team can gain a better understanding of mission context.

Understanding people in an uncertain environment complicates the reckoning process by unknown degrees of magnitude. Writing in sixteenth century France, a time of immense strife and warfare, Michel de Montaigne explains:

The world is but a perennial see-saw. Everything in it—the land, the mountains of the Caucasus, the pyramids of Egypt—all waver with a common motion and their own. Constancy itself is nothing but a more languid rocking to and fro. I am unable to stabilize my subject: it staggers confusedly along with a natural drunkenness. I grasp as it is now, at this moment when I am lingering over it. I am not portraying being but

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<sup>37</sup> Heffernan, “Meet is Murder.”

<sup>38</sup> Plato, *The Republic of Plato*, trans. Francis M. Conford (Oxford, UK: Oxford University Press, 1966), 252.

becoming: not the passage from one age to another...but from day to day,  
from minute to minute.<sup>39</sup>

To achieve understanding of an ever-changing, deeply complicated environment is a lofty aim—perhaps too lofty. And yet, the mere attempt, even if incomplete, can yield valuable insights.

People readily talk to their friends because they have a sense of other-regardingness, a genuine respect for the other. Greek philosopher Aristotle explains that the concept of *philia*, friendship or close connections is at the heart of every society.<sup>40</sup> Ideally, a community of practice is one started amongst friends, and then expanded to include others, encouraging the cultivation of close ties. The rigidity of a military hierarchy contradicts this sense of community because, for genuine *philia* to exist, people must regard the other as equal, nearly equal, or to have the potential to obtain the esteem that the other has earned.<sup>41</sup> A CoP, therefore, must exist as an informal entity parallel to the operations process.

*Philia*, however, is often cultivated among people who are close both in physical proximity and way of thinking, whereas, to achieve a greater sense of understanding of a foreign country, one needs to open the aperture to include outsiders who may be located thousands of miles away. There may be no better way to gain understanding than to exploit the human need to be social. Given that a community is being asked to focus on something as abstract as “understanding,” a complex environment will not be organically formed; there must be certain roles delegated to certain individuals charged with different duties.<sup>42</sup>

Citizenship in a community of practice is a privilege with benefits and requirements. And just like a Greek *polis*, the community of practice must not exceed a

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<sup>39</sup> Michel De Montaigne, *The Essays: A Selection Rev Ed*, trans. M. A. Screech (London; New York: Penguin Classics, 1994), 232–233.

<sup>40</sup> Larry Matheny, “Aristotle and Western Political Theory” (lecture, Centre College, Danville, KY, 2004).

<sup>41</sup> Larry Matheny, “Aristotle and Western Political Theory.”

<sup>42</sup> Larry Matheny, “Aristotle and Western Political Theory.”

certain size because doing so will dilute any speck of genuine *philia*. The tasks of the CoP are a public duty, serving the health of the community.

The benefits of a CoP are simple: When another member of the community calls, you answer. When you email someone, he or she replies. These requests for dialogue are honored, not because of an expected or implied reciprocation. There ought not to be implicit quid pro quo drifting under the surface; people within the CoP genuinely care, for a variety of reasons, about a geographical area and its inhabitants. Likewise, strong feelings toward an area will likely produce spirited debate, depending on the topics, within the CoP, which will help lessen the fatigue induced by the everyday, incessant news output, a hallmark of the information age.

#### **A. STRUCTURES, DESIGN, AND LIFE CYCLES OF A COP**

Informality becomes one of the keys to a successful CoP. Such a community is naturally acephalous, and yet does not exist in the form described above. Such informality within a CoP is needed to tackle some of the deep epistemological questions that ought to be examined before applying U.S. military force and other resources to an area. Etienne Wenger describes these types of spontaneous groups formed in the car company Chrysler, with its focus on technology. Managers did not direct these groups to be formed across the various divisions of the company: “Rather than formalizing these emerging knowledge-based groups into a new matrix structure, they decided to keep them somewhat informal but to sanction and support them.”<sup>43</sup> Similarly, people who have a persistent and innate curiosity and interest for a particular topic should be encouraged to form these types of informal groups.

The person who has the most passion for a topic, or stands to gain the most professionally by interacting with a mix of others outside their typical circles, is usually the one who forms such a community. This person willing to bear the start-up cost is known as the network caretaker and builds the CoP by recruiting other people. Wenger describes: “These people don’t necessarily work together every day, but they meet because they find value in their interactions. As they spend time together, they typically

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<sup>43</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 2.

share information, insight, and advice. They help each other solve problems.”<sup>44</sup> In the case of discussing a country, its inhabitants, and its culture, the community requires different types of people, not necessarily a higher volume of the same type, to express different points of view and various empirical observations. The “network caretaker” is the catalyst for the assembly and maintenance of the CoP and is responsible for the overall health and wellness of the network.

The CoP network matures through scheduled engagements connecting people from disparate organizations. Relationships are cultivated based on a certain shared enthusiasm for the topic at hand. The network transitions from an ego-centric, one mode network, to a two-mode bipartite graph.<sup>45</sup> The CoP, at times, goes dormant due to a collective diffusion of interest among the group because of a national emergency; directed job transitions; poor handling of the network; or a lack of time/energy to overcome the tremendous inertia of acquiring the seed corn for the growth and cultivation of a CoP. The authors address these concerns following each engagement.

## **B. TYPES AND FREQUENCIES OF INTERACTIONS: MAKERS VERSUS MANAGERS<sup>46</sup>**

Talk to any veteran in the U.S. SOF community, and in answer to the suggestion of a Knowledge-based CoP, they all will say, “Been there. Seen that. Done that.” A righteous skepticism of change pervades the mind of the seasoned veteran, as they are the victims of various organizational shake-ups, usually the products of misapplied organizational design. This is why a CoP should never be formalized, only incentivized. In other words, commanders can incentivize the formation of such communities, just as the managers did at Chrysler, by rewarding the network caretaker with resources, time, autonomy, and promotion.<sup>47</sup>

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<sup>44</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 4.

<sup>45</sup> Christina Prell, *Social Network Analysis: History, Theory & Methodology* (Los Angeles: Sage, 2011), 16–17.

<sup>46</sup> Heffernan, “Meet is Murder.”

<sup>47</sup> Wenger, McDermott, and Snyder, *Cultivating Communities of Practice*, 2.

In her article “Meet is Murder,” Heffernan discusses the difference between managers and makers. For example, in a company called Spring, based in Manhattan, the chief technology officer calls his team together. In the discussion, the executive explains the dichotomy between “makers” and “managers.” The executive “t[ells] the room that some people thrive on meetings. These he call[s] Managers, people who require a weekly calendar splotted to saturation with hourly changes of venue and cohort.”<sup>48</sup> The chief technology officer contrasts this with people he describes as “Makers...poetic souls whose well-being can be shattered by an ill-timed ‘sync,’ ‘brand lab’ or ‘share-out’ in a conference room. Makers can’t live like Managers. They require ‘Maker hours’...They need rich, solitary, germinative time.”<sup>49</sup>

Given the nearly limitless resources of the U.S. DOD, the question here is, what went wrong, in the understanding the environment phase of mission planning? One answer is that the military thrives on hierarchy and a clearly defined chain of command for the purposes of unity of command. In her travels to Afghanistan in and around 2014, Anna Simons observed that, although the theater of war was mature in the sense of logistics, resources, and systems, it lacked a true sense of unity of command. Simons explains: “Clear, too, is that the human default is to only defer to those whom you want or must defer to; avoid those you don’t want to defer to (if you can); and to elicit deference (should you choose to) from those who rank beneath you.”<sup>50</sup> Indeed, if humans “default” to hierarchies, then in instances of high stress such as war, military hierarchies are extremely effective. If a theater SOF unit, however, is assigned to an area not considered a theater of war, then there could be some parallel informal structure, like a CoP, which exists outside of the hierarchy but which informs the unit’s decision makers.

In alignment with Heffernan’s views, managers run the organization, while the makers inform it. It does not matter how well run an organization is if the vision is skewed, blurred, or incomplete. The makers, the author suggests, would be those

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<sup>48</sup> Heffernan, “Meet is Murder.”

<sup>49</sup> Heffernan, “Meet is Murder.”

<sup>50</sup> Anna Simons, *21<sup>ST</sup>-Century Challenges of Command: A View from the Field*, (Carlisle, Pa.: Strategic Studies Institute and U.S. Army War College Press, 2017), 61.

individuals involved in the CoP, incentivized by the organization's manager, but not formalized. Information distilled from hours of dialectic would be injected at designated junctures between the makers and the managers for the benefit of the organization and the better understanding of the environment.

**C. IMPLICATIONS OF THE POST-INFORMATION AGE: BLINDED BY  
“SHARED CONSCIOUSNESS”**

One of the most successful and publicized campaigns of the Global War on Terror was the Joint Special Operations Command's (JSOC) systematic dismantling of enemy networks in Iraq and Afghanistan. The misapplication of McChrystalian so-called “shared consciousness,” however, can do more harm to organizations than good, especially when its frenetic pace erodes a maker's “long periods of fertile solitude.”<sup>51</sup> The McChrystalian style of management influenced certain headquarters, and the organizational practices have been, in some instances, misapplied. For example, when everything is shared, the sheer volume of information becomes nearly insurmountable, overwhelming inboxes, crowding calendars with unwarranted semi-mandatory video teleconferences (VTC), briefings, presentations—all of which consume and interrupt the time it takes for the makers to think and connect with other makers. In essence, the hallmark of misapplied McChrystalian shared-consciousness is a situation in which everyone becomes a manager. If everyone is a manager, running the organization's endless churn, then who can do the thinking? By the way, there is a VTC in five minutes. Are you going?

However, big data sets are increasing in availability, and analytical software is also becoming easier to use. The authors suggest that one way to shore-up hours of dialectic in practice is to compare the distilled information resulting from CoP engagements with measurable data. This is the responsibility of the network caretaker or anyone in the CoP who is responsible for injecting the information gained from the maker's “lazy afternoons” into the manager's schedule. Whoever in the CoP brings

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<sup>51</sup> Heffernan, “Meet is Murder.”

results of conversations to a manager must ensure that the data either corroborates the information, contradicts it, or is either inconclusive or unavailable.

The structure of a Knowledge-based CoP is inherently informal, yet organic. A network caretaker acts as the catalyst, fomenting the juices of disparate individuals and organizations, culminating in informal engagements over time. The types and frequencies of these interactions are dependent upon the knowledge base, and ought never be formalized, only incentivized by commanders who can award the network caretakers with time, resources, and positive evaluations if warranted. Engagements ought to occur parallel to the operations process, preventing the “makers” from being bogged down by day-to-day events. Information distilled from productive conversations and checked against apodictic data sets then are shared with operations managers so that they confirm or question where, how, and why to U.S. resources are to be allocated.

The next chapter describes the actual events and uses of what we have discussed in the previous chapters to test our framework and theories surrounding a Knowledge-based Community of Practice.



## V. DESIGN SESSIONS

The concept of “design” can be the vehicle by which to engage the Knowledge-based Community of Practice in achieving something akin to a dialectic that can result in the illumination of a complex, ill-defined problem set. According to Army Techniques Publication 5-0.1, titled *Army Design Methodology* (ATP 5-01.1), “Design thinking in Army doctrine resulted from a recognition that commanders and staff had difficulty understanding complex situations. This hindered their ability to distinguish between symptoms of problems and their root causes. This difficulty led to solutions that addressed symptoms of problems rather than problem causes.”<sup>52</sup> Although the authors used the Army Design Methodology (ADM) as a template to guide design sessions, it must be noted that the design here was not nested with an operations process, but rather was a purely academic exercise. The results of the design sessions, however, could be used to further operations process, if directed by a commander. The cultivation of a Knowledge-based CoP for the purposes of framing an operational environment could very well be the result of the execution “disciplined initiative”—the hallmark of mission command.<sup>53</sup> ATP 5-0.1 describes ADM as “includ[ing] interconnected thinking activities that aid in conceptual planning and decisionmaking [sic]. By first framing an operational environment and associated problems, ADM enables commanders and staffs to think about the situation in depth. From this understanding, commanders and staff develop a more informed approach to solve or manage identified problems.”<sup>54</sup>

The goal of this design series was to frame Libya’s current strategic environment by examining third country activities and interests inside that country. According to ATP 5-0.1, “Commanders initiate ADM by forming a planning team to help them develop a contextual understanding of their operational environment.”<sup>55</sup> It is impossible to

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<sup>52</sup> United States Army, *Army Techniques Publication ATP 5-0.1 Army Design Methodology* July 2015 (Headquarters, Department of the Army, 2015), V.

<sup>53</sup> U.S. Army, 1-1.

<sup>54</sup> U.S. Army, 1-3.

<sup>55</sup> U.S. Army, 1-4.

“develop a contextual understanding” of an environment without knowing nuanced, detailed, and current information. The ADM implies that understanding an environment results in a more effective application of U.S. military force and other resources, and yet the ADM doesn’t provide much guidance as to how to achieve such understanding. By engaging with a Knowledge-based CoP, staffs can rapidly expand their knowledge base of an area through interacting with subject experts in structured, collaborative, iterative sessions.

The authors engaged the newly cultivated Knowledge-based CoP in four separate, hour-long design sessions. These sessions took place in person with some members of the Knowledge-based CoP and with others dialing in remotely via video teleconference (VTC) applications. The session was organized and led by the authors who outlined key points and takeaways on a whiteboard visible to both remote and in-person participants. The authors opened these sessions with a disclaimer that the engagement was not for attribution, was entirely open source information, and was not being recorded. This was to encourage collaboration and dialogue. ATP 5-0.1 states, “Through collaboration and dialogue, the commander creates a learning environment by allowing participants to think critically creatively and share their ideas, opinions, and recommendations without fear of retribution. Effective dialogue requires candor and a free, yet mutually respectful, competition of ideas.”<sup>56</sup> Dialogue and collaboration are critical elements to the design function, framing an operational environment, and yet, if the members of the planning team lack expertise on the problem set, the dialogue and collaboration never take flight. Thus, the design team leader could be incentivized to form a Knowledge-based CoP to get his or her planning team “up to speed.”

Unlike planning cells and teams that are directed by commanders, a Knowledge-based CoP is purely voluntary. For the members of a Knowledge-based CoP to keep coming back, the dialogue must be stimulating, questions posed by the design team leader must be well informed, and the design team leader must moderate the dialogue with erudition and control. Also, the participants in the Knowledge-based CoP must have

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<sup>56</sup> U.S. Army, 1-7.

a certain “regardingness” towards the other participants. For example, during the cultivation stage of the Knowledge-based CoP, the authors found out that a potential member was suspected by other potential members of deliberately sowing disinformation about Libya. This sort of accusation could scuttle any productivity in a session, or cause certain valuable members to cancel their participation altogether.

During the session, the design team leader structured the conversation by drawing a chart on the white board, outlining Libya’s major external and internal actors (Figure 3). The design team leader connected the actors to their respective interests and activities by posing certain assumptions to the subject matter experts. Sometimes there was broad consensus regarding the actions of third countries in Libya, and sometimes there were spirited disagreements. In either case, a design team could pose certain planning assumptions to the members of the Knowledge-based CoPs resulting in a shoring up of the assumption or other modification. Each session was capped at one hour. The purpose of this time limit was to respect the contributions of each CoP member volunteering his or her time, and since the conversation was usually stimulating, to keep the CoP members interested in coming back for a subsequent session.

#### **A. STRUCTURE AND TYPES OF INTERACTION**

ATP 5-0.1 acknowledges the potential need for “Subject Matter Experts,” and explains, “Request for subject matter expert support ranges from requesting individuals are present in the headquarters or reaching back teleconference, video teleconference, and email.”<sup>57</sup> However, there is no doctrinal description of how and whom to recruit into the design team.

A Knowledge-based CoP engaged in structured, iterative, and collaborative sessions would work best with about three subject experts, the primary inputs of current, detailed information. More than three subject experts could result in difficulties mediating the session, especially if the mode of interaction is via VTC. In-person sessions could work similarly to a small-scale interactive panel discussion, in which panelists are directed to address a topic. The panelists would be guided by the design

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<sup>57</sup> U.S. Army, 1-7.

team leader, and team members would provide input. According to ATP 5-0.1, design teams should be small: “A core of six to nine people, with other subject matter experts participating as needed, is an effective size.”<sup>58</sup> The core of a design team could be a staff at a component level, or a SOF team at the tactical level, if that team is provided the proper guidance and resourcing.

In some cases, the design team leader would also function as the network caretaker, a self-appointed individual responsible for forming and coalescing the Knowledge based CoP. The network caretaker, as the center of the network, would cultivate the initial ties between subject experts and the design team. As the network matures, ties would be formed or reinforced between subject experts. Indeed, the prospect of participating in dialogue with peers in the same subject would be an incentive for subject experts to participate in design sessions. Subject experts would gain relevancy through quantity of connections between other subject experts and personal vetting the value of another self-declared subject expert’s expertise, which they could use as capital for those wishing to learn about their area.

#### **B. FREQUENCY OF INTERACTION: KNOWLEDGE-BASED COP IN THE BATTLE RHYTHM**

Managers run the organization while makers inform it.<sup>59</sup> The Knowledge-based CoP would provide current and detailed information to the design team, allowing the design functions contextual relevancy. There would need to be a distinct separation, however, between the CoP and the operational planning process to safeguard information. A one-way information membrane would need to exist and be enforced through formalized security procedures to enable the flow of current, detailed information to the design team, but also to prevent operational planning information from leaking to the Knowledge-based CoP. If operational planning occurs simultaneously to the ADM process, then planning information could be compartmentalized from the design team.

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<sup>58</sup> U.S. Army, 2-5.

<sup>59</sup> Heffernan, “Meet is Murder.”

During the execution phase of an operation, both the Knowledge-based CoP and the design team would interact with the operational managers during prescribed planned periods marked on the battle rhythm and determined by the chief of staff. It would be the duty of the design team to distill information gained from the Knowledge-based CoP during design sessions into relevant, palatable estimates of strategic levels backed by current contextual information gained from detailed information.

Ideally, a reciprocal interplay between the operational managers and the design team would exist through iterations. For example, the operational managers would describe the implementation of a commander's guidance to the design team, whereas the design team would provide context and trends. Essentially, the operational managers would describe "what we are doing and why," while the design team would explain "what they are doing, who 'they' are, and why they're doing what they're doing." Regarding staff division of labor, tasking a future operations cell with becoming a design team would be a mistake because future operations are an extension of the operational managers. A future operations cell and a current operations cell would be separated by time, whereas a design augmented by a Knowledge-based CoP would be separated by scope.

The authors conducted four separate design sessions with the same theme. Each session was one hour in duration, and occurred every Friday, except for the final session which occurred in-person on a Tuesday at Fort Bragg, North Carolina. In a separate study directed by a commander, the authors derived certain principles of an effective battle rhythm: They must be predictable; if an event can't take place, it must be canceled, not rescheduled, and preparation time for each event must be taken into account. Maintaining a constant schedule of sessions each Friday at 1000 Pacific Time, 1300 Eastern Time, and 1900 Eastern European Time enabled busy people to plan for the event.

### **C. IMPLICATIONS OF THE POST-INFORMATION AGE: BLINDED BY "SHARED CONSCIOUSNESS"**

Mark Moyer, in his book, *Oppose Any Foe*, explains, "Although the future is in many respects unpredictable, SOF will be better prepared if they devote some attention

now to potential trouble spots. Once the 911 call comes in from the White House, they will likely have little or no time for further study of place, people, or tasks.”<sup>60</sup> Dr. Moyer’s insight is in line with the concept of the Knowledge-based CoP. First, the idea that theater SOF keeps an eye on the various and innumerable “trouble spots” around the globe is part of the justification for its existence. From Ouagadougou to Tora Bora, theater SOF constantly deploy, redeploy, train, and deploy again, often to different places and work with different partners. This constant operational churn, coupled with the military’s rigid career progression, creates a need to learn and re-learn about environments that are within a unit’s regional alignment. That is, even when theater SOF units are regionally aligned, meaning the preponderance of their deployments and operations takes place in a designated geographic region, SOF elements are in a perpetual state of learning about an unfamiliar area.

A key function for theater SOF is to “devote some attention now to potential trouble spots,”<sup>61</sup> but operational requirements and career progression make it impossible to send the same people back to the same areas over and over again, decreasing the likelihood of individual SOF personnel gaining expertise in obscure, remote, and often impoverished areas. Without relevant expertise, theater SOF cannot deliver what it promises—knowledge of the geography, personalities, and power dynamics of a particular area resulting from repeated deployments—to the national security apparatus when the “911 call comes in from the White House.”<sup>62</sup>

A method to learn about obscure trouble spots is to form a Knowledge-based CoP, comprised of subject experts who have experience and knowledge in that area, and who care about the operational environment. A tactical unit could be responsible for forming their own Knowledge-based CoP and running design sessions for the purpose of obtaining a more complete understanding of an area—essentially framing the operational environment. Guidance and incentives, however, must be offered if commanders are to

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<sup>60</sup> Mark Moyer, *Oppose Any Foe: The Rise of America’s Special Operations Forces* (New York: Basic Books, 2017), 596.

<sup>61</sup> Mark Moyer, *Oppose Any Foe*, 596.

<sup>62</sup> Mark Moyer, *Oppose Any Foe*, 596.

see value at the tactical level in the creation of a Knowledge-based CoP. Modest guidance and few resources other than time would allow teams to create knowledge-based networks, recruiting subject experts from Twitter, academia, and reaching out to JSOU in order to have a set of iterative discussions about an area to which that team was about to deploy.

Culturally, the notion that the U.S. military would support “lazy afternoons” associated with the creative process is naïve. However, the idea that theater SOF units should manage collaboration as a constant stream of data transmitted through email—a mix of directives, informational reporting, personal messages, and planning—is equally naïve. The frenetic pace of “shared consciousness” is effective in certain situations, particularly ones requiring a large organization to focus on one or two problem sets, providing underlings a sense of ownership in problem sets to which they are far removed, and harnessing resources to produce one or two products—namely high end surgical strikes for the purpose of counter terrorism.

In smaller organizations with fewer resources and broader problem sets, such as a U.S. Special Forces Group charged with the entire continent of Africa as their area of responsibility (AOR)—although a slightly more nuanced term, such as “region of expertise,” could be more accurate—frenetic concentration on one or two products would result in prohibitive opportunity costs. If a theater SOF unit attempts to structure their organization to reflect the success of JSOC in Iraq in 2006, then they will focus resources away from developing a broad contextual understanding of an area.

In *Team of Teams*, the landmark doctrinal book describing McChrystalian management styles, the author writes, “Team members tackling complex environments must all grasp the team’s situation and overarching purpose. Only if each of them understands the goal of a mission and the strategic context in which it fits can the team members evaluate the risks on the fly and know how to behave in relation to their teammates.”<sup>63</sup> Perhaps this is true in certain circumstances where the mission, the purpose, and the strategic context are all defined. In instances where the mission is

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<sup>63</sup> General Stanley McChrystal et al., *Team of Teams: New Rules of Engagement for a Complex World* (New York: Portfolio, 2015), 170–171.

unclear, however, the strategic context is dynamic and uncertain, and then the concept of a Knowledge-based CoP could be applied. The problem with McChrystian managerial practices is that oversharing information about everything reduces the value of information due to inflation and sheer quantity, and increases the time it takes to sort through it. In smaller organizations with broader problem sets, the landscape of what the organization should be producing is akin to a village market of artisans, masters of their craft (specific area), rather than mass production of complicated high-end machines.

## **D. KNOWLEDGE-BASED COPS IN ACTION**

### **1. Session 1**

The first design session consisted of one Foreign Area Officer (FAO) with extensive experience working with the Italians, and some operational experience during the Libyan Civil War in 2011. This individual was extremely valuable for his experience and expertise, as well as his inherent interest in the ongoing unrest in Libya. This FAO used his language skills to maintain the pulse of the European perspective on the Libyan Civil War by reading online periodicals published in Italian. While his experience in Libya was limited to a brief period in 2011, his inherent curiosity coupled with his intellect and language ability sustained his expertise, making his analysis particularly valuable. This individual volunteered his time and expertise, not from a sense of quid pro quo, but because of his inherent interest in Libya.

As described in Chapter I, the authors reached out to a wide swath of other potential subject experts during the cultivation phase of the Knowledge-based CoP, but no others participated. The authors expected this and discussed their expectations prior to the session, which resulted in a productive session with the sole subject expert present. The subject expert was physically present in the design room, while there was an observer remoting in via Google Hangouts. Having the subject expert physically present is an advantage over technology based interactions, enabling a real-time, personal, engagement. The authors were also able to test the Google Hangouts as a platform for remote interaction, which proved to be easy to use, easily accessible to anyone with a Google account and able to connect to mobile devices, and was generally reliable.



Session 1, titled “Third Country Interests and Activities,” focused on defining and describing internal actors, then describing which country’s interests aligned with the various internal actors. As seen in Figure 3, the outline of the session’s white board was predetermined by the design team leader, but remained flexible. The idea of an outline was based on ATP 5-0.1, which explains, “One way to develop an understanding of an operational environment is from a systems perspective...Building a diagram illustrating relevant actor functions, relationships, and tensions helps the commander and staff to understand an operational environment.”<sup>64</sup> Engagement without structure is a rudderless vessel.

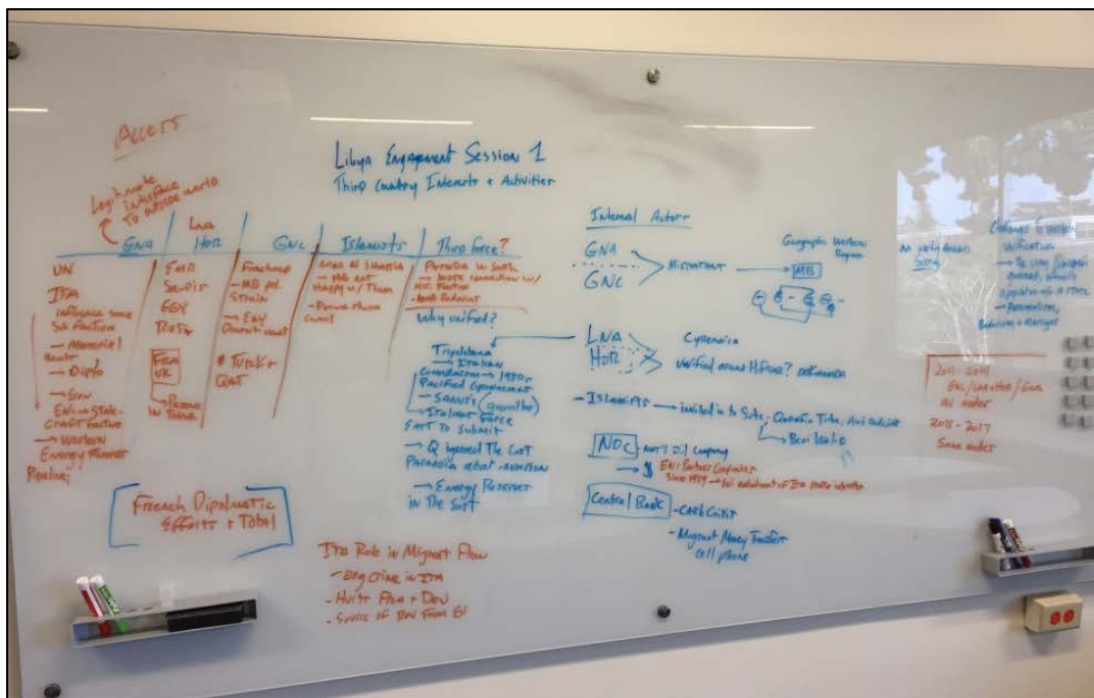


Figure 3. Session 1 White Board

The design team leader opened the session by explaining the session’s outline, and adding a simple disclaimer: “This is purely an academic exercise and not for attribution. All information discussed here is open-source. This session is not being recorded by us, and recording this session without consent of the participants is a direct

<sup>64</sup> U.S. Army, *Army Techniques Publication ATP 5-0.1*, 3-3.

violation of Federal Law. We have allotted one hour for this session, and our topic today is Third Country Interests and Activities in Libya.”<sup>65</sup> In addition to the diagram structure of the white board, the narrow topic, and the time limit, the structure was further defined by the disclaimer from the design team leader.

The content of the session focused on the alignment of internal actors with foreign countries, which required explanations that included historical context, policy tendencies, assumptions, and brainstorming. This led to discussions that considered the shifting nature of internal actors and the relation of internal actors to patrons. At the session’s conclusion, the design team leader and participants determined that a further examination of internal actors needed to be analyzed in a subsequent session, and that “Third Country Actors and Interests” could work better as a series of sessions rather than a compressed single session.

## **2. Session 2**

This session was a continuation of Session 1, but with different and a greater number of participants. This session contained the largest number of virtual participants out of all the sessions conducted by the authors during the course of this research. The participants included the leader of a Libyan focused think tank based in Washington, D.C., a prolific journalist and researcher from Ireland with a focus on Libya contacted by the authors via Twitter, observers from the U.S. Department of State’s Bureau of Conflict and Stabilization, and the Foreign Area Officer from the first session.

The design team leader provided up-front structure by boxing in the topic of the session, which focused on a detailed examination of Libya’s internal actors. See Figure 4. The timer was set at 60 minutes, out of respect for the subject experts who were donating their time and to maintain a high tempo exchange. Finally, the design team leader asked participants to introduce themselves and explain their interest in Libya, and then read the disclaimer noted in the first session.

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<sup>65</sup> John Robey, Personal Communication During Design Session 1, Naval Postgraduate School, July 1, 2017.

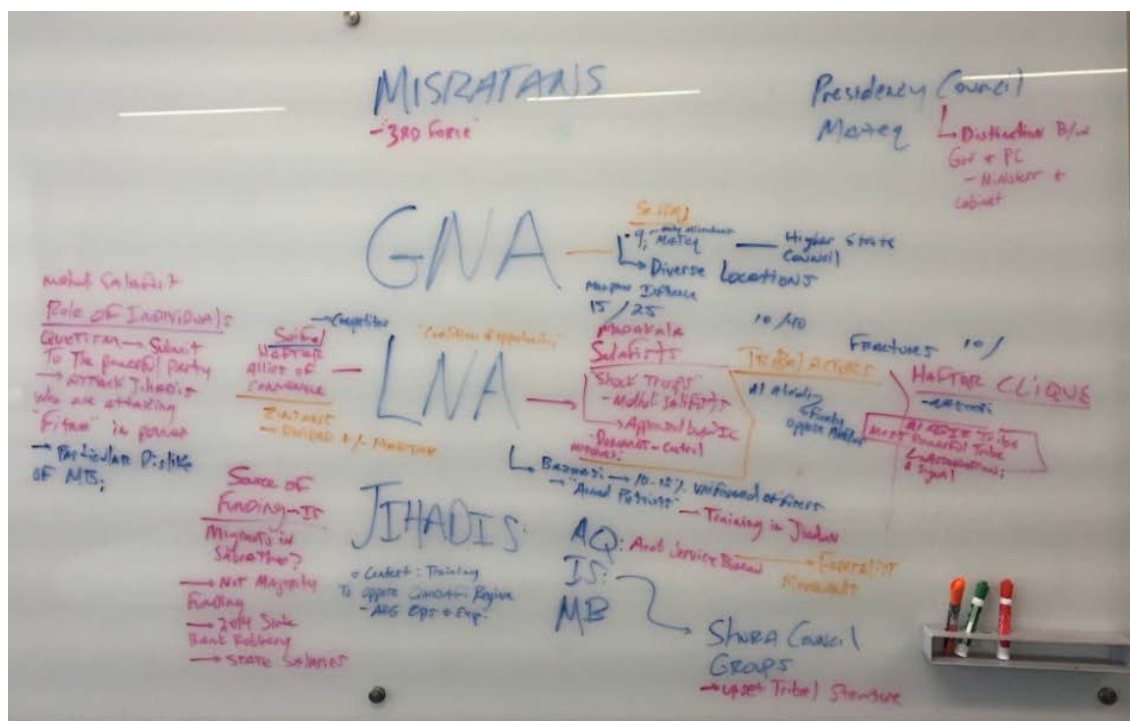


Figure 4. Session 2 White Board

The focus of this particular session was, perhaps, too introductory to interest members of the U.S. Department of State who are already subject experts in their own right. Their participation, however, was evidence of this particular bureau's desire to work with U.S. Theater SOF. It should be noted that the members of the U.S. Department of State who did attend Session 2 did so despite nagging and persistent technological obstacles in connecting via Google Hangouts. Because of institutional practices, it was easier for the authors to connect with U.S. Department of State representatives via Secure Internet Protocol Router Network in a secure facility than through open source software. Due to internet security measures, the representatives from the U.S. Department of State were forced to find a way to connect with the Knowledge-based CoP that would satisfy both institutional regulations and enable them to observe the session. Participation from these particular representatives was expected to be minimal due to pending decisions on U.S. policy regarding Libya. Because of the obstacles faced by these representatives in connecting to the sessions, the pending policy decisions regarding Libya, and the fact that the sessions were too rudimentary, the authors felt that it was more effective to

discontinue attempts to include the U.S. DoS representatives in the Knowledge-based CoP. Instead, the authors decided to vet the education received from the sessions to be able to stand “toe to toe” with experienced analysts and experts from the U.S. DoS in face-to-face interactions.

The interplay between two subject experts with professional regard for each other provided a productive, energetic dynamic that propelled the session forward. The two subject experts had not had the chance to interact previously and were interested in connecting. Their exchanges reduced the pressure of one subject expert contributing the majority of the session content by dispersing it among two subject experts. The presence of two subject experts also allowed for a dialogue between the two, the disclosure of divergent points of view, and the clarification of points.

### **3. Session 3**

Two subject experts participated in this session—the leader of a Libya- focused, Washington, D.C.-based think tank and the Foreign Area Officer. Both subject experts had participated in the previous sessions. Sometimes, as the authors discovered, the topic (not the theme) is dictated by subject experts’ particular areas of expertise. Prior to the session, the authors did not know which subject experts would participate. These are busy people with full-time jobs who graciously donated their time because they genuinely cared about the future of Libya. They were under no obligation to inform the authors as to whether they would participate. In this case, the design team leader determined, once it was clear which subject experts would be present, to focus on the strategic competition between the French and Italian interests in Libya.

The design team leader reviewed the disclaimer with the participants, explained the focus of the session, and set the timer for 60 minutes. Although the authors felt some degree of disappointment that there were not more subject experts participating, the design team leader still managed to expose divergent points of view between the two participating subject experts regarding the influence of the Italian energy company ENI. Exposing divergent points of view among subject experts is one of the duties of a design

team leader because it exposes vulnerabilities of assumptions, from which plans can then be construed. See Figure 5.

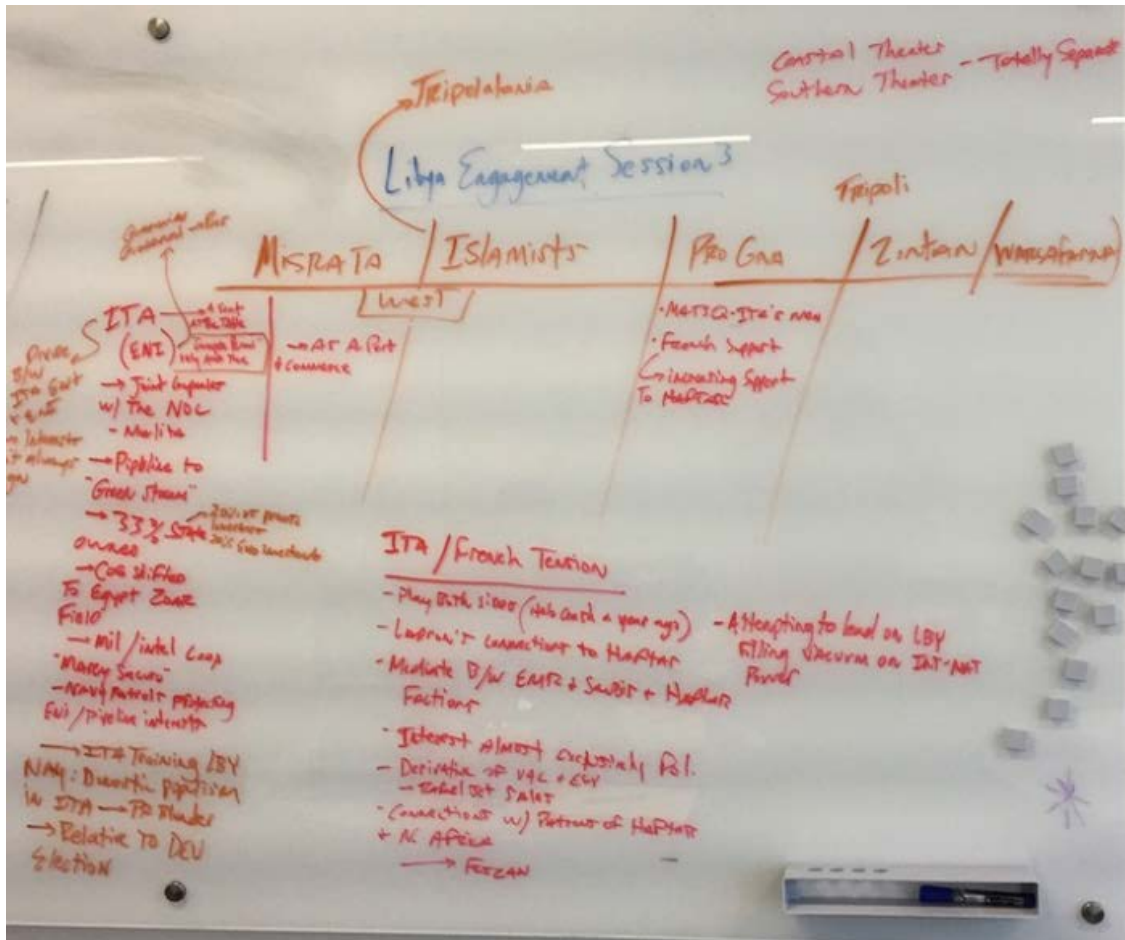


Figure 5. Session 3 White Board

#### 4. Session 4

For this session, the authors traveled to Fort Bragg, North Carolina, to incorporate active duty U.S. Army Civil Affairs and Special Forces soldiers with some working knowledge of Libya into a design session with the Knowledge-based CoP. Although coordination with and recruitment of various subject experts was ongoing, the authors were unable to determine exactly which subject experts would be able to participate. Prior to this session, the authors confirmed that at least one subject expert would participate. The actual participants included the leader of a Libyan-focused think

tank, a blogger with access to various information streams inside Libya, an individual with expertise on Tunisian maritime matters, and, most importantly, the soldiers described above.

The authors decided to switch the video teleconference platform from Google Hangouts to Skype for Business because they thought it could offer advantages. The adage, “If it ain’t broke, don’t fix it,” is applicable in this instance. The design team attempted to troubleshoot the software the day of execution, which added to the overall uncertainty of the session.

This session focused on the interests and activities of the Russians, Egyptians, Emirates, Saudis, Qataris, Turks, as well as a review of the French and Italian interests. The design team leader anticipated strong participation from the active duty soldiers, but was generally mistaken. There were a few interjections, questions, and points of order from the soldiers present to the subject experts, but generally, they were in “receive mode.” This is likely because, as noted in the section “A Knowledge-based CoP in the Battle Rhythm,” the soldiers lacked information, forewarning, or the time and space to prepare for such a session. In other words, their participation was not necessarily voluntary, and the extremely collaborative nature of the design session caught them off guard.

To be prepared for active participation, the authors suggest that each soldier has access to a white board (Figure 6) in order to visualize his or her thoughts to the subject expert. Hence, the soldiers can use the surface to take notes, illustrate points, and articulate interjections. The authors also suggest that, if the concept of a Knowledge-based CoP matures, commanders offer incentives to arriving to such sessions prepared, and supporting such resources—like time—needed to prepare. Counterfactuals can be dangerously discrediting, but in this instance, it is safe to assume that if the soldiers had participated in each design session from the inception of the project, then their interactions with the subject experts during the hour-long session would have increased because of their expanded and deepened contextual understanding.



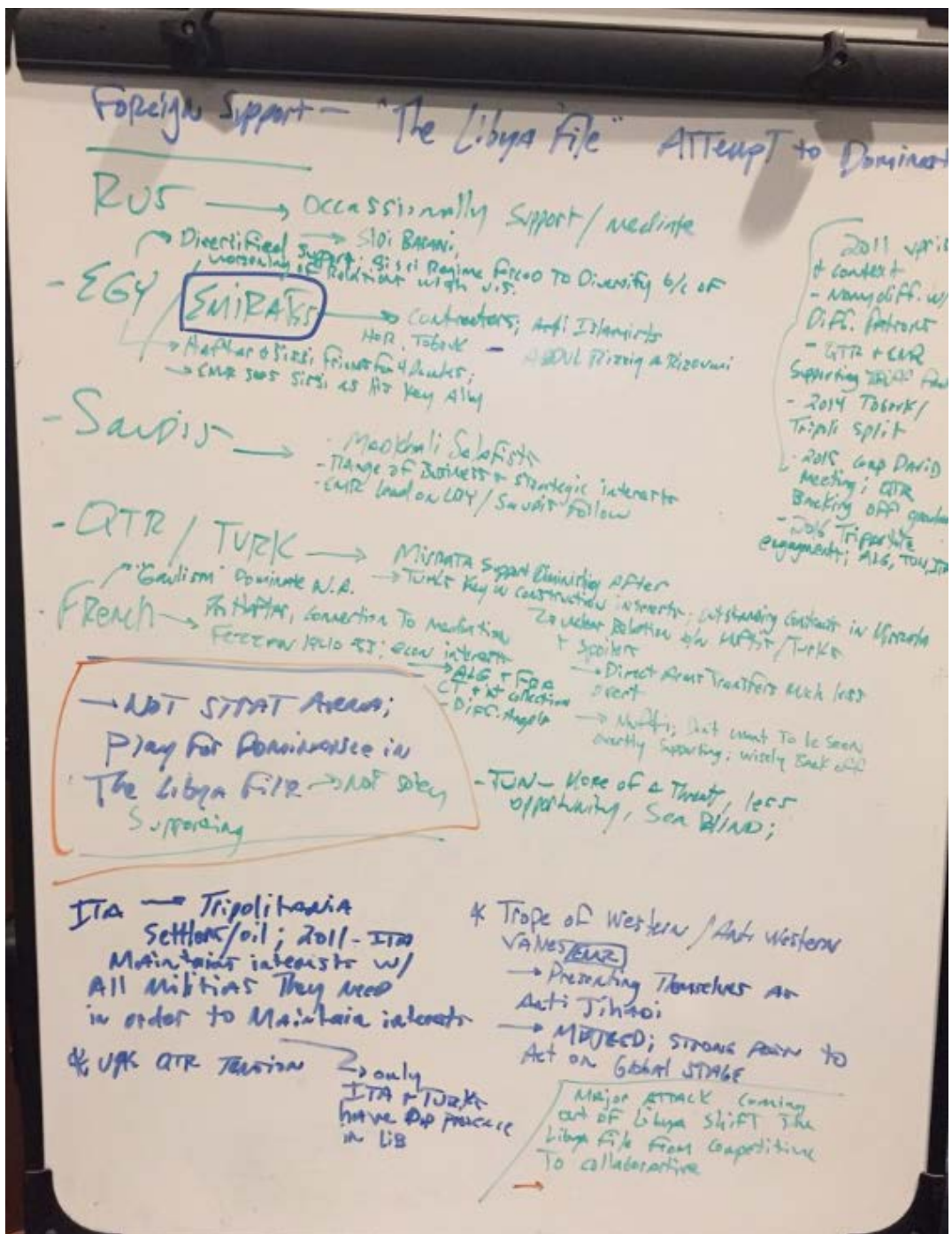


Figure 6. Session 4 White Board

## **E. SUMMARY**

### **1. Army Design Methodology**

ATP 5-0.1 provides a thorough structure for implementing design into military planning but is incomplete regarding obtaining expertise on dynamic, complicated operational environments that serve as areas of global competition.

### **2. Structures and Types of Interactions**

The network caretaker is the person with the most to gain from bringing together subject experts and can do so effectively through the use of open source video teleconferencing software such as Google Hangouts.

### **3. Frequency of Interaction**

The authors conducted four separate design sessions organized with a specific theme. Each session was one hour in duration, and occurred each Friday, except for the final session which occurred in-person on a Tuesday in Fort Bragg, North Carolina. In a separate study directed by a commander, the authors derived certain principles of an effective battle rhythm: They must be predictable; if an event cannot take place, it must be canceled, not rescheduled, and preparation time for each event must be taken into account. Maintaining a constant schedule of having sessions each Friday at 1000 Pacific Time, 1300 Eastern Time, and 1900 Eastern European Time enabled busy people to plan for the event.

### **4. Implications of Post-information Age**

Managers run the organization, while the Makers inform it. Applying McChyrstalian management principles to Theater SOF could compromise their charter, specifically keeping an eye on potential trouble spots around the globe preparing to respond in the event of a national security crisis. Theater SOF, unlike the heavy, high-end machinery of JSOC, is akin to a village bazaar of artisans, each specializing in a different obscure area. Due to the career management of individuals in the military and the Global Force Management Process, this specialization is harder to achieve in reality, requiring



rapid education and updates. The authors offer their concept of a Knowledge-based CoP to fulfill such a role.

## **5. A Knowledge-Based CoP in Action**

The authors conducted four separate design sessions with the same theme—Third Country Activities and Interests in Libya. The first session was a proof of concept for the design team leaders to work through the Army Design Methodology and incorporate Google Hangouts. The second session incorporated multiple subject experts and entities, validating that two to three subject experts are the right number and that incorporating representatives from the U.S. Department of State could put them in an awkward position, given pending policy decisions. The third session demonstrated that flexibility within the theme allowed the design team leader to adjust the focus of a session to better fit the expertise of the subject experts. Finally, the fourth session incorporated active duty soldiers with a working knowledge of Libya and confirmed that soldiers need to prepare ahead of time for such a session, have access to a white board, and be incentivized to participate by their commanders.

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## VI. DATA, DATA, EVERYWHERE

### A. INTRODUCTION AND BACKGROUND OF THE ISSUE

Since Gaddafi's overthrow in August 2011, Libya has continued to experience instability and domestic strife. The country's political arena has fractured into an assortment of armed Islamist factions, a military strongman, external actors, and various unaligned tribal militias vying for a voice in national politics. The international community, namely the UN, has been working to graft a government of national unity onto this erratic host for over five years, with little success.<sup>66</sup> Alarming, this prolonged instability has provided an ideal environment for the Islamic State (IS) to infiltrate, and now Libya presents an acute security threat for Europe and the United States. Additionally, this chaos has led to the development of a lucrative human trafficking network, flooding Europe with illegal migrants and challenging European political stability.<sup>67</sup> When Libya's vast energy resources are taken into consideration alongside these security concerns, a clear theme emerges: external actors attempt to wield influence as power brokers and dominate the "Libya File."<sup>68</sup>

For the majority of his rule, Gaddafi adopted an antagonistic policy toward the West: He flirted with the Soviet Union,<sup>69</sup> provided sanctuary and training to countless terrorist organizations, and was even directly involved in the bombings of a nightclub and an airplane (PanAm Flight 103) which killed American and European citizens.<sup>70</sup> Despite this history of contention, the post-Cold War reality forced Gaddafi to reconcile himself with the West to avoid crippling economic and political isolation. This need to transition

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<sup>66</sup>"Leading From Behind: Italy Ponders Military Intervention in Libya," *The Economist*, last modified May 5, 2016, <http://www.economist.com/node/21698322/print>.

<sup>67</sup> Alberto Mucci, "Italy's Search for a New Libyan Savior," Politico, last modified April 6, 2016, <http://www.politico.eu/article/italys-search-for-a-new-libyan-savior>.

<sup>68</sup> Jason Pack, "External Actors in Libya" (presentation, Design Session 3, Naval Postgraduate School, Monterey, CA, August 4, 2017).

<sup>69</sup> Ronald Bruce-St John, "The Soviet Penetration of Libya," *The World Today* 38, no. 4 (April 1992): 136–137.

<sup>70</sup>Eben Kaplan, "How Libya Got Off the List," Council on Foreign Relations, last modified October 16, 2007, <http://www.cfr.org/libya/libya-got-off-list/p10855>.

from pariah to legitimacy led Gaddafi to take steps to dismantle his chemical and nuclear weapons programs and to participate in, rather than promote, the fight against Islamic terrorism.<sup>71</sup> Despite this change in his behavior, in early 2011, social unrest in Benghazi sparked a national opposition movement demanding democratic reform. Inspired by a revolution in neighboring Tunisia, Libyans demanded Gaddafi and his inner circle relinquish power and depart the country. The regime responded with force, which triggered a violent revolution that NATO supported with air strikes and a naval blockade.<sup>72</sup> This episode of Libya's history ended with Gaddafi's death in his hometown of Sirte on October 20, 2011,<sup>73</sup> which marked the beginning of an ongoing transition from 42 years of dictatorship that had dismembered Libya and, so far, continues to subject the population to violence and uncertainty.

After the Gaddafi regime was defeated, NATO quickly withdrew from Libyan affairs,<sup>74</sup> and the democratic transition that the majority of the Libyan people eagerly anticipated failed to materialize. Instead, the country fractured into a collection of well-organized Islamic militias armed with weapons supplied by both the remains of Gaddafi's vast arsenal and foreign actors seeking influence in Libyan affairs. These disparate Islamic factions fought for territorial control among each other; the anarchy that grew from this competition inspired a former Libyan Army General, Khalifa Haftar, to unite secular elements of the Libyan National Army (LNA) in eastern Libya<sup>75</sup> and the small western enclave of Zentan<sup>76</sup> under his influence and challenge the Islamist militias throughout the country.

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<sup>71</sup>Kaplan, "How Libya Got Off the List."

<sup>72</sup>John Oakes, *Libya: The History of Gaddafi's Pariah State* (Stroud, UK: The History Press, 2012), 161–175.

<sup>73</sup> Oakes, *Libya*, 177.

<sup>74</sup>"NATO and Libya," North Atlantic Treaty Organization, last modified November 9, 2015, [http://www.nato.int/cps/en/natohq/topics\\_71652.htm](http://www.nato.int/cps/en/natohq/topics_71652.htm).

<sup>75</sup> Georgio Cafiero and Daniel Wagner, "Four Years After Gaddafi, Libya IS a Failed State," *Foreign Policy in Focus*, last modified April 6, 2015, <http://fpif.org/four-years-after-gaddafi-libya-is-a-failed-state/>.

<sup>76</sup> Mary Fitzgerald, "Armed Groups," European Council on Foreign Relations, accessed December 4, 2016, [http://www.ecfr.eu/mena/mapping\\_libya\\_conflict](http://www.ecfr.eu/mena/mapping_libya_conflict).

Today, control of Libya has largely solidified into two main political blocks (see Figure 7), with Tuareg and Tubu tribes exerting influence over the sparsely populated areas in the country's south.

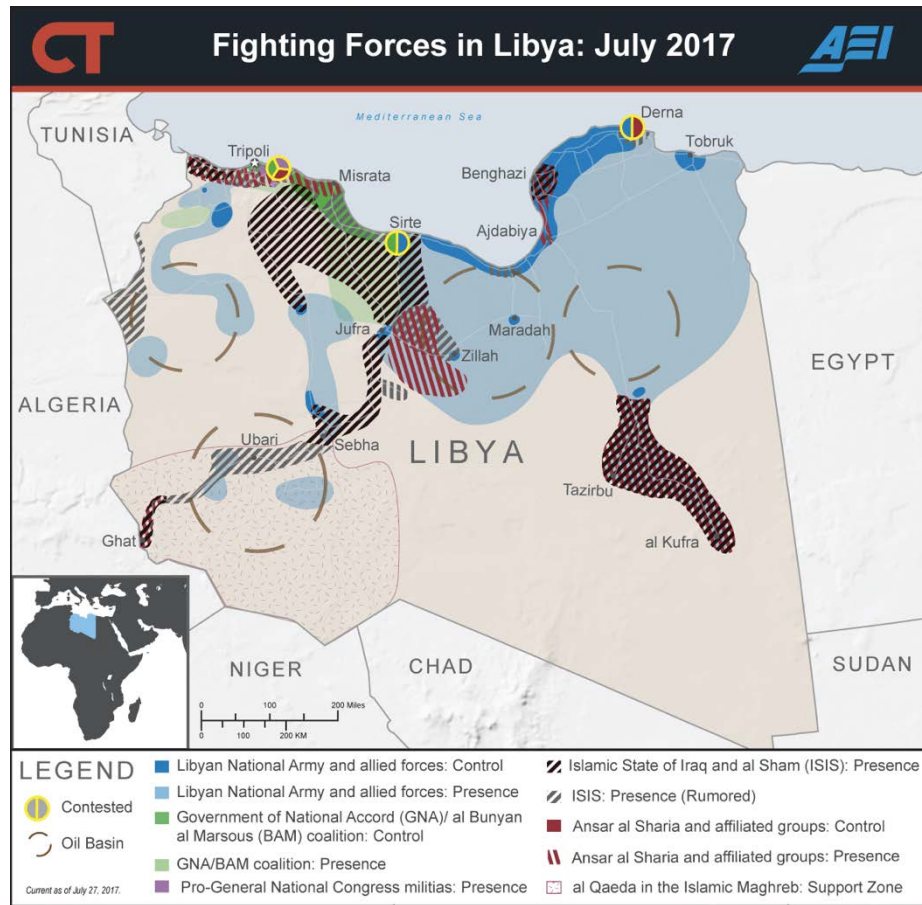


Figure 7. Fighting Forces in Libya<sup>77</sup>

Additionally, fighters of the weakened Islamic State (IS) still hold territory in Gaddafi's hometown of Sirte, and small pockets of other jihadist<sup>78</sup> militias exist in parts

<sup>77</sup> "Fighting Forces in Libya: July 2017," Critical Threats, accessed September 12, 2017, <https://www.criticalthreats.org/analysis/fighting-forces-in-libya-july-2017>.

<sup>78</sup> The term Jihadist is used to define organizations that advocate governance according to strict Islamic Law and that are opposed to cooperation with other political elements—the extreme component of political Islam.

of Benghazi and Derna in the east. These actors are weak, isolated,<sup>79</sup> and although they played a leading role in increasing the violence in Libya following the revolution, are mostly insignificant when contemplating Libya's political future.

The International community, under the auspices of the UN, has been trying to form a consensus in Libya around a unifying government body, the so-called Government of National Accord (GNA). Headquartered in Tripoli, the GNA has now managed tentatively to unite the numerous militias and political actors in western Libya, including Misrata, a city-state on the country's western coast that commands a highly effective military force engaged in fighting IS in Sirte.<sup>80</sup> The composition of the GNA includes moderate-Islamic political actors that include the Muslim Brotherhood. These political Islamic elements and, in particular, the Muslim Brotherhood, place the GNA at odds with the other major political force in Libya—General Khalifa Haftar and his Libyan National Army (LNA).

The LNA represents both secular political forces and the regional interests of Cyrenaica, Libya's eastern province, which has historically been at odds with Tripolitania, the country's western province (see Figure 8). General Haftar commands the LNA and launched "Operation Dignity" in response to the instability created in the aftermath of the revolution as a result of infighting among the Islamic militias competing for influence in the national government. Consequently, the LNA's declared aim is to defeat these extreme Islamic political elements in Libya. For his campaign against political Islam, General Haftar receives support from Egypt and its ruler General al-Sisi,. Because of this association, the GNA's Muslim Brotherhood-dominated constituents see the LNA as both an Egyptian agent and a threat.<sup>81</sup> This dynamic has created a sharp divide between these two blocs, with open hostilities anticipated once the IS is defeated in central Libya.

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<sup>79</sup> Eric Schmidt, "ISIS Remains Threat in Libya Despite Defeat in Surt, U.S. Officials Say," *New York Times*, December 8, 2016.

<sup>80</sup> Mattia Toaldo, "A Quick Guide to Libya's Main Players," European Council on Foreign Relations, accessed December 4, 2016, [http://www.ecfr.eu/mena/mapping\\_libya\\_conflict](http://www.ecfr.eu/mena/mapping_libya_conflict).

<sup>81</sup>Toaldo, "A Quick Guide."



Figure 8. Map of Libya's Political Divisions<sup>82</sup>

## B. RESEARCH QUESTION

This study attempts to better understand the applicability of large data sets to confirm or deny distilled information obtained through subject experts during iterative and focused design sessions. By applying big data sets toward a Knowledge-based Community of Practice, the authors seek to better illustrate the interplay between apodictic data and context-based design sessions. Specifically, the authors seek to determine whether certain metrics of network analysis, namely Total Degree Centrality, can confirm or deny the information gleaned from the design series covering third country activities and interests in Libya.

<sup>82</sup> "Libya's Escalating Civil War," Middle East Institute, accessed October 12, 2017, <https://www.mei.edu/content/at/libya%E2%80%99s-escalating-civil-war>.

### C. DATA SET

The data set used in this paper comes from the Integrated Crisis Early Warning System (ICEWS), a collaborative “effort in computational social science to predict instability in foreign countries of interest.”<sup>83</sup> The ICEWS project took place between 2007–2012 and is continuously updated in near real time. When applied to certain models, ICEWS can be a powerful predictive tool to “forecast select events of interests (EOIs) at high accuracy.”<sup>84</sup> This data set uses the “same coding system as [the Phoenix Data Set] but covers a more recent period (1995-2016).”<sup>85</sup>

The authors determined that ICEWS is the most applicable data source given the scope of inquiry--external actors (nation states) attempting to exert influence over Libya between 2010–2017. Although there is some measured capability to use large data sets in near real time forecasting on the level of “material conflict between belligerents,” the authors used data analytics to serve as a back-stop for the suppositions made by subject experts during design sessions.<sup>86</sup>

The nodes represent third countries active in the competition to dominate the “Libyan File.” The countries include: Italy, France, the United Kingdom, Russia, the United Arab Emirates, Egypt, Turkey, Qatar, the Kingdom of Saudi Arabia, Tunisia, Algeria, and Sudan. The ties between the nodes represent material and verbal support to Libya. It must be noted that ICEWS does not distinguish between the different internal factions ruling Libya.

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<sup>83</sup> Brian Kettler and Mark Hoffman, “Instability Modeling, Forecasting and Mitigation from the DARPA Integrated Crisis Early Warning System (ICEWS) Program,” *Advances in Design for Cross-Cultural Activities* (Boca Raton, FL: CRC Press, July 2012): 420.

<sup>84</sup> Kettler and Hoffman, “Insatiability Modeling,” 420.

<sup>85</sup> Jesse Hammond, Email to Students Regarding ICEWS, September 7, 2017.

<sup>86</sup> Patrick T. Brandt, John R. Freeman, and Philip A. Schrod, “Real Time, Time Series Forecasting of Inter- and Intra-State Political Conflict,” *Conflict Management and Peace Science* 28, no. 1 (2011): 41–46, doi:10.1177/0738894210388125.



## **D. RESULTS**

The authors equated the measurement of Total Degree Centrality with domination of the Libyan File because it represents the actors who are most dominant in a network. In this case, the actors with the most relevance in providing Libya with material or verbal support are the ones who dominate access and thereby influence Libya with respect to the international community.

Based on total degree centrality of the entire network over the eight-year period consisting of 2010–2017, France maintained the highest degree of centrality. There is a one-tenth difference between France and Russia in the overall centrality measure, but Russia is not necessarily consistent with its top-tier domination of the Libyan File. Russia has consistently been in the top three dominant entities, but, considering that the Libya has gone through a tumultuous period of unrest and civil war during this time period, Russia expanded its margin of centrality by a mere difference of .003. In other words, if Libya is a “strategic arena,” the data shows that Russia has not substantially increased its Total Degree Centrality metric. See Table 1.

Table 1. Total Degree Centrality of the Libya Network

## Total Degree Centrality

Individuals or organizations who are 'in the know' are those who are linked to many others and so, by virtue of their position have access to the ideas, thoughts, beliefs of many others. Individuals who are 'in the know' are identified by degree centrality in the relevant social network. Those who are ranked high on this metrics have more connections to others in the same network. The scientific name of this measure is total degree centrality and it is calculated on the agent by agent matrices.

Input network(s): states

Rank	Beginning Period		Middle Period		End Period		Overall	
1	FRA	0.304	FRA	0.286	RUS	0.184	FRA	0.304
2	GBR	0.294	RUS	0.279	FRA	0.170	RUS	0.297
3	RUS	0.267	EGY	0.227	GBR	0.145	GBR	0.248
4	TUR	0.239	GBR	0.220	SAU	0.117	EGY	0.210
5	LBY	0.197	TUR	0.141	TUR	0.105	TUR	0.171
6	EGY	0.170	SAU	0.137	ITA	0.085	SAU	0.150
7	SDN	0.125	ITA	0.096	EGY	0.078	ITA	0.114
8	ITA	0.116	TUN	0.089	ARE	0.070	LBY	0.107
9	SAU	0.099	LBY	0.087	LBY	0.046	TUN	0.089
10	QAT	0.089	DZA	0.085	TUN	0.044	ARE	0.078

The network depicted represents key actors exerting influence over Libya during a time of tremendous instability verging on civil war, and demonstrates the various factions of spheres of influence as countries attempt to maneuver. For example, Turkey and Qatar align with the Muslim Brotherhood faction. Saudi Arabia and the United Arab Emirates align themselves with the Libyan national army and the Madkhali Salafists. Meanwhile, the Europeans attempt to align themselves with the UN-backed GNA centrists.

The uprising against Gaddafi's government in 2011 caused an increase in international interest in Libya, culminating with his ousting later that year. France and the United Kingdom have a high Total Degree Centrality measure because they participated in NATO operations against the Gaddafi government. However, Russia's Total Degree Centrality ranks third, which is difficult to explain regarding material support but could be attributed to increased, or slightly increased, verbal support.

The year 2013 shows a general overall decline of international material and verbal support to Libya. There is a convergence of total degree centrality amongst France, Russia, the United Kingdom (UK), and Egypt. There may not be one event that causes this metric to narrow among these actors.

The 2015–16 time period was a period in which violence amongst factions in Libya generally increased. This created a difficult environment for various actor to provide support. The total degree centrality among France, Russia, the UK, and Egypt all decline during this period, as shown in Figure 9.

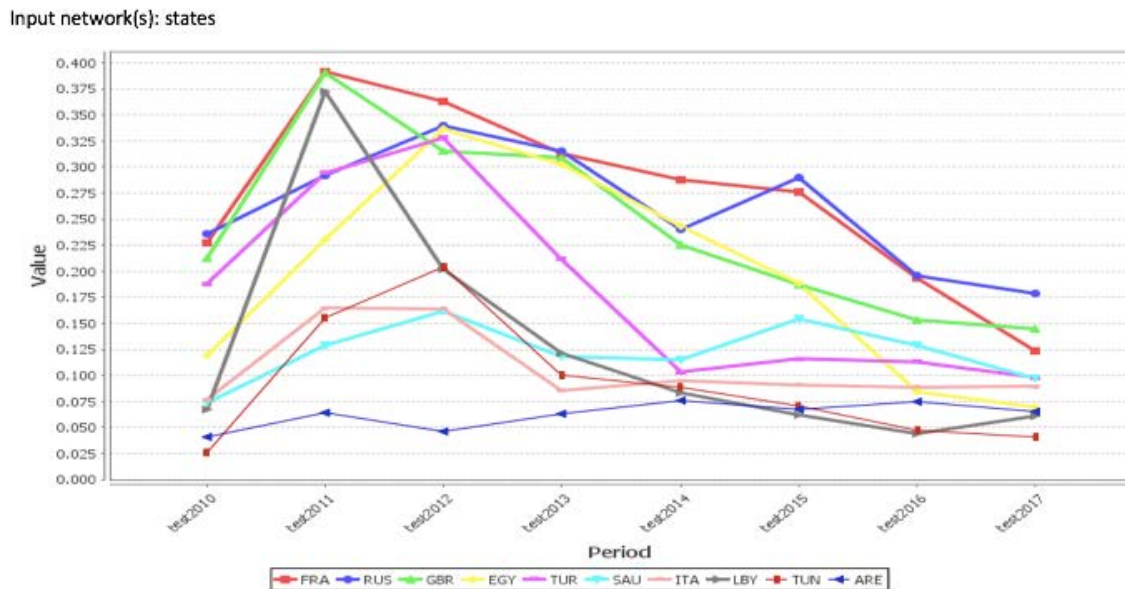


Figure 9. Total Degree Centrality of the Libya Network between 2010 and 2017

## **E. ANALYSIS OF THE RESULTS OF THE DESIGN SESSIONS AND DATA BY ACTORS**

### **1. Russia**

The data shows that, since late 2014, Russia has had the highest degree of centrality. In design session 4, however, the subject experts did not cover Russia's activities and interests in Libya in proportion to their total degree centrality measure. Analyzing Russian intentions in Libya are beyond this study; however, if subsequent sessions were to occur, Russia's activities and interests would need to be addressed.

### **2. Egypt and UAE**

Egypt has a significant amount of influence in Libya, and is looking to eliminate a perceived existential regional threat from "political Islam."<sup>87</sup> Thus, Egypt has now exported its campaign against the Muslim Brotherhood to Libya where it directly supports General Haftar and his Libyan National Army (LNA) in its fight against Islamist political forces—a broad category that includes the Brotherhood. Egypt's strategy to counter the Brotherhood's regional influence involves ensuring that it has control of eastern Libya to create a "buffer zone" between the Egyptian border and Islamist militias in Tripoli.<sup>88</sup>

Like Egypt, the United Arab Emirates has similar goals but with its recent intervention in Yemen, has become more inclined to support the UN-backed GNA.<sup>89</sup> As the UAE shifts more resources to operations in Yemen, their support for their proxies in Libya will diminish.

The Kingdom of Saudi Arabia's interests and activities seem to be in alignment with the Egyptians and the Emiratis. Riyadh has invested a significant amount of capital into the Egyptian military since the Muslim Brotherhood President Mohammed Morsi

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<sup>87</sup>Toaldo,"A Quick Guide."

<sup>88</sup>Toaldo, "A Quick Guide."

<sup>89</sup> Karim Mezran, "War in Yemen = Peace in Libya?" Text, The National Interest, accessed September 14, 2017, <http://nationalinterest.org/blog/the-buzz/war-yemen-peace-libya-12569>.

was removed from power during the 2013 Egyptian coup d'état, was led by Abdel Fattah el-Sisi.<sup>90</sup>

### **3. Qatar and Turkey**

Turkey's and Qatar's support for the various factions in Misrata have diminished following the rift between Qatar and the Gulf Cooperation Council. Turkish businesses remain engaged in construction interests in Misrata—so much so that the Government of Turkey became the second country (behind Italy) to re-open its embassy in Libya.<sup>91</sup> Regardless, the internal actors in Libya have not responded to the influence and efforts of Turkey and Qatar as they have to Egypt and the UAE.

### **4. France**

Based on France's rising fear in the wake of the Paris attacks, and the West's stance that the Islamic State would continue to use the instability in Libya to train and launch attacks into Europe and beyond, its government made a shift in their foreign policy views towards Libya. This change in policy led the French Government to push for a united national army that would include Haftar.<sup>92</sup>

In addition to their new role in Libya, President Macron stated that France would be “uncompromising in their fight against Islamists in the Sahel, vowing that [their] military options would continue until the jihadists were eradicated.”<sup>93</sup>

### **5. Italy**

Italy, a former colonial power, has important long-standing energy interests in Libya, overseen by its state-owned energy company, *Ente Nazionale Idrocarburi* (ENI),

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<sup>90</sup> “Saudi Arabia and Egypt Forge Closer Ties,” Middle East Policy Council,” accessed September 14, 2017, <http://www.mepc.org/commentary/saudi-arabia-and-egypt-forge-closer-ties>.

<sup>91</sup> “Turkey Reopens Tripoli Embassy,” *Libya Herald* (blog), accessed September 14, 2017, <https://www.libyaherald.com/2017/01/30/turkey-reopens-tripoli-embassy/>.

<sup>92</sup> “France under Macron Signals Shift in Libya Policy, toward Haftar,” Reuters, May 18, 2017, accessed September 14, 2017, <http://www.reuters.com/article/us-france-libya/france-under-macron-signals-shift-in-libya-policy-toward-haftar-idUSKCN18E2UU>.

<sup>93</sup> “Macron Vows ‘Uncompromising’ Fight against Mali Islamists on Visit to French Troops,” France 24, last modified May 19, 2017, <http://www.reuters.com/article/us-france-libya/france-under-macron-signals-shift-in-libya-policy-toward-haftar-idUSKCN18E2UU..>

and the continuing instability and violence in the country favor these Italian interests. Their relationship is evident by observing that the anarchy in Libya, and the violence that has persisted since the overthrow of the Gaddafi regime, has not hindered ENI's operations, rather, ENI has increased production from its pre-2011 levels.<sup>94</sup> Furthermore, the current violence benefits the company by forcing out competitors and ensuring Italian hegemony over Libya's energy sector and political future.

This empirical observation alone demonstrates the Italian Government's and ENI's level of influence inside Libya, achieved through its historical relationship with Libya's elites which are bound to Italian interests and directly share ENI's profits.

## **F. CONCLUSION**

Information gleaned from iterative design sessions with subject experts is rich in context, but can easily over- or underemphasize the roles of certain actors, especially in terms of material support. The authors have demonstrated, through the use of large data-sets, that data can be used as a course correction to avoid unintentional group think and the propensity to focus on certain entities that tend to dominate discussion. This method, used in conjunction with the contextual information provided by subject experts, helps to illuminate dynamic and complicated political systems. It must be noted that the data cannot be directly compared to the results of the design sessions because none of the actors listed as nodes were rank-ordered during the sessions. The data, however, shows which entities to which a design team would need to dedicate a proportional amount of time and energy understanding, within a strategic environment. For example, data can steer the focus of design sessions to examine the actions and activities of certain actors over others that have a lower total degree centrality measure.

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<sup>94</sup> "Medserv Energy — Oil and Gas Logistics Specialists," Medserv Energy, Infusion Solutions Ltd., accessed September 14, 2017, <http://www.medservenergy.com>.

## **VII. CONCLUSION**

### **A. SUMMARY OF RESEARCH QUESTION**

This research project focused on the creation, cultivation and maintenance of a Knowledge-based Community of Practice. The larger research question, “How do we get more connected with people who know things?” came from real-world events. Within the context of real-world events, had a more complete understanding been achieved, perhaps different outcomes would have emerged, or the negative outcome of putting Americans unwittingly in harm’s way could have been avoided altogether. Based on this, the authors refined their research to establish a core group of subject experts, reporters, academics, and non-governmental organizations, who would participate in iterative design sessions focused on understanding complex issues in a strategic arena such as Libya.

### **B. SUMMARY OF FINDINGS**

Our findings are divided into two categories, general findings and implementation of these findings. The first section describes the results and elaborates upon the value that a Knowledge-based CoP creates. The authors’ Recommendation of Findings section discusses the thoughts on the use, placement, and requirements to implement such a Knowledge-based CoP to become better connected to people who both possess knowledge and care to bring to bear a more complete understanding of an operational environment prior to, during, or in order to avoid altogether, the application of U.S. military force.

### **C. GENERAL FINDINGS**

In general, the authors conclude that cultivating a Knowledge-based CoP is a worthwhile endeavor, provided that the problem set meets certain criteria. Namely, problems without clear solutions, or problems requiring a nuanced approach to the application of U.S. military force and other resources are ones that could benefit from a Knowledge-based CoP. The authors chose Libya as one such problem that could be illuminated by cultivating a Knowledge-based CoP and conducted a series of design

sessions to frame the operational environment. The Army Design Methodology can be a powerful tool to structure iterative design sessions with a Knowledge-based CoP. Design without intimate and current knowledge of a problem set, however, is like planning a campaign without analyzing the terrain. A Knowledge-based CoP is an effective, but costly, way to rapidly gain information about a complex problem set and maintain currency on changing environments. The distilled information resulting from design sessions held with the Knowledge-based CoP can be checked against large data sets, and the focus of the design sessions can be structured to reflect the results of data analysis mitigating the effects of personal bias.

Although networking is an implied task of SOF officers and NCOs, cultivating a Knowledge-based CoP to focus on a particular problem is time consuming. The network caretaker, the person initiating the cultivation process, may search within the vastness of the Department of Defense, other government agencies and scholarly associations, often with mixed results and tepid commitments of subject experts to participate. The relationship between journalists and U.S. SOF is tenuous for reasons beyond the scope of this study. Those with differing perspectives, however, such as journalists, can be value added to a Knowledge-based CoP because they have often interviewed key personalities, have current insights into an area, and generally “keep their fingers on the pulse” of a certain area. If a problem set falls within a unit’s region of expertise, and operational plans need to be revised, updated, or built, then a Knowledge-based CoP could be valuable.

#### **D. IMPLEMENTATION OF FINDINGS**

The level of command at which a headquarters could benefit most from implementing a Knowledge-based CoP and have adequate resources to do it would most likely be at the level of brigade and above. Although CoPs could be very useful at the tactical level, it would be the responsibility of the network caretaker at the operational level to connect a Knowledge-based CoP at the tactical level, informing commanders at the various levels.



A Knowledge-based CoP could be created by design team leaders in the operations sections of headquarters, as long as they are supported by commanders. If commanders find value in the results of iterative design sessions held with subject experts, then they may incentivize the sustainment of such communities by providing design teams with resources. On the other hand, commanders may direct the cultivation of a Knowledge-based CoP to inform design teams, providing guidance and resources. Given that such communities would be high cost endeavors, commanders who want to rapidly get their planners educated on current issues and context of dynamic problem sets would need to provide the following resources to support the cultivation and maintenance of a Knowledge-based CoP: time for the preparation and execution of design sessions; travel funding for face-to-face meetings positive evaluations for performance; and above all—their attention.

#### **E. RECOMMENDED FUTURE EFFORTS**

One way to drastically reduce the costs of cultivating and maintaining a Knowledge-based CoP would be to have a dossier of vetted or cleared academics, journalists, private industry leaders, and think tank members established at certain organizations within SOF, like the Joint Special Operations University. Given that the five active duty Special Forces Groups have designated Areas of Responsibility to which they regularly deploy forces, it would seem possible to establish a collection of subject experts associated with each area.

#### **F. GREATER IMPLICATIONS**

This thesis has developed a method for creating and cultivating a Knowledge-based Community of Practice that can be used to better understand complex issues. It has described a technique utilizing iterative design sessions based on the Army Design Methodology, outlined in Army Techniques Publication 5-0.1. It has used data sets and network analysis to better understand the applicability of large amounts of information to confirm or deny what was obtained through subject experts during our design sessions. Perhaps the most important result from this thesis, however, is not the information distilled from our design sessions itself, but the method and the process developed by the

authors to cultivate and maintain a Knowledge-based CoP. Today's security challenges are likely to become more challenging and increasingly complex and difficult. Organizations, governments, teams, and unique entities must find new ways to work together. Interorganizational sharing and collaboration will become even more critical as more and more areas of the globe simmer at a low boil—in a state just short of conflict. To gain a better understanding of these complex issues developed in a timely and relevant manner will require U.S. SOF to reach into their network of non-standard relationships. A Knowledge-based CoP is not the cure-all, but it can provide a method for organizations to bridge gaps in deeper, contextual knowledge. The methodology used in this thesis is just one possible solution for U.S. SOF to do just that.

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