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THE HUMAN TERRAIN SYSTEM: ACHIEVING A COMPETITIVE ADVANTAGE THROUGH ENHANCED "POPULATION-CENTRIC" KNOWLEDGE FLOWS

by

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September 2008

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    The research uses the case study method to analyze a currently deployed Human Terrain Team. The analysis leverages Knowledge Flow Theory to explain how the HTT creates, shares, and harnesses relevant cultural knowledge to improve the competitive performance of the host unit and advance the adoption of a population centric strategy. The thesis concludes that the embedded HTT concept is valid and necessary in counterinsurgency and nation building contexts. The thesis recommends developing a sufficient pool of career military social scientists to serve as future candidate participants, and integrating a knowledge management mechanism and policy into the HTS framework.

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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I.   INTRODUCTION

This chapter introduces important contextual information necessary for framing the research. It first describes the nature of the counterinsurgency (COIN) and nation building environment and how its unique characteristics affect strategic choices faced by the United States in the Global War on Terror (GWOT). Chapter I also introduces the Human Terrain System (HTS) as one of the choices selected by the U.S. Army to help improve COIN operations in Iraq and Afghanistan. Following the introduction of the HTS organization, the chapter finishes by establishing the need for the research, and defining the research domain, and benefits.

A.   THE COUNTERINSURGENCY (COIN) ENVIRONMENT

The terrorist attacks of September 11, 2001 marked the preeminent emergence of a new period in conflict that fundamentally challenges conventional war and the conventional way of thinking about war. This challenge may also represent the historical turning point where the world acknowledged the dawn of an era of extended conflict with viable non-state organizers of war such as al-Qaida (Bunker, 2005; Van Creveld, 1991, p. 225). Conceiving of two fundamentally different kinds of war, that which is waged between or among states and that which is not, the latter kind represents a difficult challenge for the state possessing a conventional military poised to fight an unconventional opponent (e.g., a state vs. an insurgent group) (Taber, 2002, p. 19; Van Creveld, 1991, p. 226). The difficulties experienced by the United States fighting insurgent groups in Iraq and Afghanistan have demonstrated that a conventional force optimally configured to fight a conventional enemy performs sub-optimally against an unconventional insurgent group (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. li).

While al-Qaida and the events of 9/11 served as the catalyst for America's global response against Islamist insurgent groups and state sponsors of terror, the broader issue at hand is that modern nation states face an increasing and enduring threat from insurgent

groups (Bunker, 2005, p. xxi; U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. xlii; Van Creveld, 1991, p. 192; Metz & Millen, 2003). Insurgencies are occurring across the globe in places such as Iraq, Afghanistan, Africa and Southeast Asia. These or other irregular threats are not new, but the capabilities of these groups have improved in recent decades and now pose a more credible threat to nation states and the stability of the international system (Bunker, 2005, p. xxi; Van Creveld, 1991, p. 192). Thus, a dramatic shift in the way in which modern states conceive of and wage war against insurgent groups is necessary (Van Creveld, 1991, p. ix). However, dramatic and sweeping changes are often difficult to come by in large complex organizations like the United States Department of Defense (DoD) (Nutt & Backoff, 1992). As a result, smaller and more incremental changes have begun to adapt the U.S. military to fight counterinsurgency more effectively. This thesis focuses on one notable U.S. Army COIN initiative called the Human Terrain System (HTS).

Researching the Human Terrain System as an instrument for change is important at this point in time because success in COIN and nation building is often difficult to achieve, and many schools of thought exist on how to operate in this complex environment. The HTS is a unique initiative because it attempts to leverage special social science capabilities not organic to the U.S. military to obtain a fundamental understanding and respect for the complexities of local human populations. These populations with all of their intricacies, behaviors, motivations, perceptions, preferences, and cultural contexts define a cognitively dynamic and daunting operating environment (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. 91; Taber, 2002, p. 23-24).

Achieving success in the complex and dynamic COIN environment requires an astute sense of and respect for the human aspects of the operational environment. In America's Global War on Terror (GWOT), a war being waged globally in large part to fight myriad Islamist insurgencies, grasping the fundamental nature of each conflict requires grappling with at least four primary concepts necessary for organizing strategy. Introducing these concepts here is important because they will be referenced throughout the research.

1.   Theories of Victory: Conventional vs. Unconventional War

Perhaps of foremost concern to military planners is to what extent strategy ties to operations and tactics. Choosing an appropriate strategy in COIN first requires adopting a fundamental theory of victory that is appropriate for the environment and circumstances. McCormick states that in the COIN environment, the appropriate choice for strategy often stems from an opposite theory of victory (unconventional theory) than conventional reflex and wisdom might otherwise yield (Schaner, 2008a). Nagl and many other scholars support this notion by referring to the "indirect" approach (population-centric approach) as an often necessary strategy for victory in COIN (Nagl, 2005 p. 28; U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. xxv; Galula, 2006, p. 50).

To illustrate just how different an unconventional COIN strategy is, consider how counterinsurgency guru David Galula defines victory in COIN warfare. He points out that victory requires not only the destruction of the insurgent's political organization and forces, but also "the permanent isolation of the insurgent from the population." Galula continues by qualifying this isolation as one that is "not enforced upon the population but maintained by and with the population." The latter part of this definition alludes to why applying an unconventional strategy in COIN can be particularly challenging for conventional militaries – it demands compelling the population's active support (an unusual task for traditional warfare). McCormick asserts that a warfare strategy focused on the population is fundamentally the *opposite* of one that is focused on enemy forces. This draws the contrast between two opposing theories of victory – *conventional* vs. *unconventional*. McCormick takes this concept a step further by casting a particular sequence associated with each theory. This sequence is illustrated next as the opposing theories are contrasted in greater detail.

A conventional theory of victory relates to *conventional warfare* and the methods associated with waging "traditional" combat between two or more states and their military forces (Van Creveld, 1991, p. 10; U.S. Army and Marine Corps Counterinsurgency Field Manual 2007, p. xxvvii; Galula, 2006, p. 50). McCormick asserts a logical sequence necessary for winning conventional wars. He states that

success in conventional war is usually obtained by first defeating the opponent's military. Moreover, achieving success on the battlefield in this manner serves as a necessary precondition to obtaining the enemy government's surrender and finally the people's acquiescence. In short, the sequence to victory in conventional war is well understood to be: *army → government → people* (Schaner, 2008a).World War II provides a superb example of conventional war.

Conversely, McCormick asserts an unconventional theory of victory relates to *unconventional warfare* and the methods associated with waging "non-traditional" war such as that between a state and a non-state group (e.g., between a regime and an insurgent group). McCormick states this kind of war is fundamentally the opposite of conventional war, and is not simply a "small scale" war that exists within a ubiquitous "range of military operations" or "spectrum of conflict." McCormick asserts this kind war follows a necessary and opposite sequence to victory: *people → government → army* (Schaner, 2008a).

This sequence is problematic for conventionally oriented forces like the U.S. armed forces. The problem is revealed by the unconventional theory's non-traditional objectives. For instance, in the sequence the population becomes the primary objective of the counterinsurgent. Since the population is not a specific geographic location or enemy formation, "winning the objective" requires different skill sets and concepts. Furthermore, the "government" of this sequence refers to the insurgent organization and administrative structure. It is illusive and hidden – unlike traditional state governments. Last, the "army" of this sequence is the collection of insurgent fighters who meld into the population "by day", and strike "by night". Thus, they remain largely invisible to traditional means of electronic or human target identification (Schaner, 2008a).

The implication of these diametrically opposed kinds of war runs deep. For instance, America's military transformation, organization, and operations are currently guided by a conventional theory of victory and war fighting doctrine – the doctrine of Network Centric Warfare (NCW). Consider this statement contained within a 2001

Department of Defense (DoD) report to Congress: "Network Centric Warfare is no less than the embodiment of an Information Age transformation of DoD" (Alberts & Hayes, 2003, p. 3).

The driving goal behind NCW doctrine and force transformation is the construction of a military that can win across "the range of military operations" or "spectrum of conflict" through the application superior firepower at the decisive point and time on the battlefield (Alberts, Garstka, & Stein, 2000; Mitchell, 2006). This goal depends on leveraging information technology and networks to connect sensors, decision makers, and shooters (Alberts, Garstka, & Stein 2000; Mitchell, 2006). The assertion is that a "networked" force can win through "information superiority" and fight more proactively, flexibly and responsively against threats on the battlefield (Alberts, Garstka, & Stein, 2000; Mitchell, 2006).

The fundamentally opposite theory of victory McCormick describes raises a set of unique issues associated with the COIN environment that plague NCW concepts. For instance, the necessary focus on the population demanded by COIN means there are no decisive points on the battlefield in the traditional military sense. Furthermore, NCW doctrine assumes the information needed by decision makers and shooters can be obtained through the network's sensors. Typically, the sensors are electronic or human. Unfortunately, enemy insurgents are often "tied to the [population] through blood or marriage or long association" (Nagl, 2005, p. xiii). Thus, enemy combatants are often undetectable by any means until they commit an act, or until a blood relative or close associate chooses to turn them in to authorities. Last, NCW concepts assume that success can be achieved through largely kinetic means directed at enemy combatants. Considering the above description of the unconventional theory of victory, NCW appears decidedly conventional.

Thus, applying NCW concepts (as they currently exist) in an unconventional conflict such as COIN, is likely to be very problematic. This is perhaps why the U.S. Army and Marine Corps Counterinsurgency Field Manual states in the introduction: "The military forces that successfully defeat insurgencies are usually those able to overcome their institutional inclination to wage conventional warfare against insurgents" (U.S.

Army and Marine Corps Counterinsurgency Field Manual, 2007, p. lii). While choosing the appropriate military strategy for fighting and winning counterinsurgency is certainly important, at least three other fundamental organizing strategic concepts remain. The second concept is related to the first, but revolves around the tension that exists between achieving democracy and security. U.S. national security strategy discusses this concept in detail and clearly emphasizes the importance of achieving democracy in places the like Iraq (United States National Security Strategy, 2006). However, focusing too much on democratization and too little on security can present a problem (Iraq Strategy Review, 2007).

2. Democracy or Security: A Chicken or Egg Dilemma

A primary objective of America's Global War on Terror is to preserve and strengthen the international system of states and secure the United States by defeating al-Qaida and other insurgent groups that threaten emerging or existing democracies (United States National Security Strategy, 2006). The National Security Strategy (NSS) of 2006 describes America's grand strategy underpinning the GWOT as one promoting democratic movements in every region and culture of the world. According to this strategy, democratic governments are the most responsible actors within the international system. As responsible actors, they can be most relied upon to combat international terrorism and insurgency. The assertion continues that if stability can be obtained in the cradle of democracy, support for al-Qaida and other insurgent groups will dry up. In sum, the 2006 NSS asserts that security will follow democracy. However, the research contends an opposing view that is gaining acceptance among military strategists: that security must precede democracy (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. xlii; Galula, 2006). This is an important distinction because it gives rise to a fundamental cause for implementing population-centric projects like the Human Terrain System.

Perhaps the biggest roadblock to America's early approach to stability, security and counterinsurgency in Iraq and Afghanistan has been its conventional focus on killing insurgents while securing the population from insurgent attacks (U.S. Army and Marine

Corps Counterinsurgency Field Manual, 2007, p. xlii). As the need for a surge strategy in Iraq demonstrated, the early focus on killing insurgents while building democratic institutions proved insufficient (Iraq Strategy Review, 2007). Proponents of the surge argue that by securing the population first, the counterinsurgent (e.g., the United States in Iraq) will be afforded the opportunity to compel popular support, undermine the insurgency, and eventually establish the preferred form of government – hence, they believe security precedes democracy (Iraq Strategy Review, 2007).

It is important to note that the population-centric approach to COIN is particularly uncomfortable for conventional militaries because it requires an incremental strategy for compelling popular cooperation as a way of defeating insurgents. Worse yet, these incremental steps may take a very long time and may include decidedly non-kinetic activities (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. xvii). For the United States military that is trained, equipped, and organized to apply superior firepower at the decisive point on the battlefield to achieve rapid success, this represents a difficult challenge (Joint Vision, 2020; Alberts, Garstka, & Stein, 2000, p. 2; Mitchell, 2006).

While focusing on the population and achieving security through a slow and incremental COIN strategy represents a different approach for conventional militaries rehearsed in performing swift decisive military maneuvers, overcoming the institutional challenges to achieve change is necessary (U.S. Army and Marine Counterinsurgency Field Manual 2007, pg. lii). Upending the traditional insurgent-centric approach requires at least in part knowing the comparative advantages and disadvantages associated with the insurgent and counterinsurgent. This is the focus of the next section.

3.   Insurgency/COIN: Overcoming Comparative Disadvantages

At the beginning of an insurgency an asymmetry exists between the insurgent and the counterinsurgent (McCormick, Horton, & Harrison, 2007, p. 323; Galula, 2006, p. 3; O'Neill, 2005, p. 93). McCormick asserts the insurgent possesses an information advantage while the counterinsurgent (e.g., the state) possesses a force advantage. Being able to see the counterinsurgent while remaining invisible among the population is the

information advantage associated with the insurgent. This advantage (derived only from a cooperating population) enables the insurgent to choose the time and place of engagement, yielding him the initiative (Galula, 2006, p. 9). Conversely, while the insurgent enjoys an information advantage, he suffers from an opening force disadvantage (Galula, 2006, p. 4). This is because the insurgency usually starts out as a small group and comparatively lacks the material resources available to the state. It must therefore grow to win (Galula, 2006, p. 4). The counterinsurgent on the other hand is usually the state in power and is therefore by default a force in being. It must prevent the insurgency from growing while simultaneously preserving or extending its authority, capability, and legitimacy in order to win (Schaner, 2008b; Galula, 2006, p. 4).

The key to insurgent success is remaining undetectable during the critical period of growth (McCormick, Horton, & Harrison, 2007, p. 323; Taber, 2002). Provided some segment of the population supports the insurgency, the insurgent will "retain his liberty to refuse battle except on his own terms" (Galula, 2006, p. 9). McCormick elaborates by asserting that as the insurgency grows it becomes harder to remain invisible and keep growing at the same time. This paradox establishes the requirement for an insurgent to remain invisible until it overcomes its comparative force disadvantage. Note that both the material resources and the anonymity the insurgent needs come from the population (Galula, 2006, p. 52). Likewise, because the population knows collectively who among them supports the insurgency the population is the key to dismantling it (Schaner, 2008b; Galula, 2006, p. 50; Nagl, 2005, p. xiii). Hence, the population once again is identified as the objective for the counterinsurgent. In sum, the struggle between the insurgent and counterinsurgent is best described as a struggle to adapt, and overcome comparative disadvantages by compelling the support of the population. This highlights the primacy of the population in COIN and leads us to the final concept necessary for organizing COIN strategy – establishing control of the population.

4. Controlling the Population and Mobilizing its Support

If both sides of an insurgent/counterinsurgent struggle are pursuing the population to overcome their comparative disadvantages, then they are effectively avoiding a strategy that emphasizes direct confrontation with each other (Galula, 2006, p. 34). This unconventional approach requires establishing control of the population and sets control as a prerequisite of mobilizing popular support (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. 15).

Whereas the U.S. Army and Marine Corps Counterinsurgency Field Manual links control with mobilization (p. 15), McCormick links control first to stability and then describes it as a function of *consensus* and *compellance*. Moreover, McCormick's definition of control also supports the notion of mobilization. He defines control from the counterinsurgent's perspective as his "ability to see opposition and to influence what he sees" (Schaner, 2008b). McCormick expands upon this definition by saying the "degree to which [the counterinsurgent] can't see or influence is the degree to which [he doesn't] have control." It logically follows that the degree to which a counterinsurgent exercises control directly correlates to his ability to separate insurgents from the population and to mobilize its support (Nagl, 2005, p. 28; Galula, 2006). Thus, control emerges as a critical requirement for both sides.

McCormick's definition of control emphasizes the counterinsurgent's ability to "see and influence." This implies control is dependent upon the counterinsurgent's ability to see and influence the behaviors and choices of the population (Galula, 2006; Nagl, 2005). From the counterinsurgent's perspective, the ability to see and influence is a function of the regime's ability to provide security, justice, and governance to the local people (Galula, 2006, p. 3; U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007). It also implies that the counterinsurgent must know how culture, social networks, language, and history may influence popular decisions and behavior. This is where the Human Terrain System comes into play. By helping the counterinsurgent know and incorporate these influential behavioral factors, the HTS contributes to the establishment of control.

The above concepts are introduced in this chapter as generalized concepts necessary for organizing COIN strategy. The research does not contend the above items to be a comprehensive list. These items are however unique to this research and the Human Terrain System. In one way or another, each of the above concepts is related to the HTS. For instance, the HTS exists precisely to help the U.S. military operate more effectively in the COIN environment by learning and focusing on the population. This emphasis helps drive American units to focus on population security, comparative advantages and disadvantages, and improving control and cooperation.

B.   THE HUMAN TERRAIN SYSTEM (HTS)

This thesis evaluates the HTS to determine its viability as a concept supporting a population-centric approach to COIN. The HTS project is intended to provide a significant capability that improves the ability of military personnel to comprehend, integrate with, and operate more effectively among foreign populations. Furthermore, the HTS is designed to provide rich experiential *knowledge* of the population critical for achieving success in COIN operations. The principle capability resident within the Human Terrain System designed to create and share this rich knowledge is the Human Terrain Team (HTT). The uniqueness of the Human Terrain Team concept stems from its comprising members. Teams are made up of an experienced cultural anthropologist or social scientist who is accompanied by other highly trained cultural analysts. These members bring with them requisite skills necessary for deriving relevant cultural and social information that was not previously obtainable with U.S. military personnel. Members are currently embedded within military units (e.g., U.S. Army Brigade Combat Teams (BCTs)) tasked with performing COIN and national building operations in Iraq and Afghanistan.

The unique capability associated with the HTS and its component HTTs hinges on the power and privilege of relationships (e.g., between HTT/military members and host nation citizens, and HTT members and host military unit staff members) and the use of special social science research tools and tradecraft. The result is, in theory, a niche capability that aims to provide accelerated research-based advice to the host military unit.

The project is designed to build these relationships and create the conditions that permit wider acceptance of U.S. intervention. In principle, the HTS concept leverages the power of knowledge to bridge the cultural and perceptual divide that separates Americans from their local human environment. This establishes why the HTS is a force for change. The remainder of this thesis is dedicated to examining more critically and rigorously exactly how the HTS concept provides a significant and unique capability that yields a competitive advantage for America in its COIN and nation building efforts in the Global War on Terror. It is within this vein that the research emphasizes the notion that *knowledge* (particularly cultural knowledge) is powerful and critical in a population-centric approach to COIN and nation building (Leites & Wolf, 1970, p. 137; Nissen, 2006, p. 3).

C.   THE NEED FOR AN HTS RESEARCH PROJECT

The proof-of-concept deployment of the embedded Human Terrain Team (HTT) in 2007 appears to have demonstrated the value of employing highly skilled social scientists to aid the U.S. Army's counterinsurgency efforts (HTT Preliminary Assessment, 2007). Although this is a new initiative, and no comprehensive independent evaluation of the project's efficacy has been undertaken to date, military commanders who benefited from HTT research in the field have hailed the project's contributions (HTT Preliminary Assessment, 2007). For instance, consider the comments made by Colonel Mick Nicholson in an interview with the Human Terrain System Assessment Team (HTSAT) in August of 2007:

> Without the HTT filter on the COA's [courses of action] and the alternative maneuver tools they identified to create the exact same effect, we would have lost double the lives and would have had double the contacts. The US military has been here for years now and this unit [82nd Airborne] has been here for two rotations, and it's had no effect until now.

Moreover, the Preliminary Assessment which was conducted by the HTSAT concludes the following impact of the proof-of-concept HTT deployment that occurred in Afghanistan in 2007.

The HTT has had a profound effect on the brigade, assisting them reducing their kinetic operations, developing more effective courses of action, improving their situational awareness, improving their consequence management, increasing support for the host nation government, improving their intelligence collection and analysis, improving the brigade's humanitarian assistance efforts, improving their village assessments, improving their information operations, decreasing attacks by enemy forces, and decreasing ordinary crime in the area of operations, among other things.

The HTT Preliminary Assessment was conducted by the HTSAT through a series of interviews and observations at Forward Operating Base (FOB) Salerno from July 26 to August 10, 2007 (HTT Preliminary Assessment, 2007).

The anecdotal evidence of initial HTT/HTS success has received media attention, and has caused controversy within academia (Rohde, 2007). The HTS project is controversial because many anthropologists outside of the project believe the concept breaches the ethics of the participating professionals (Rohde, 2007). As a result, there is a growing movement among American anthropologists to join in opposition of the HTS project (Rohde, 2007). Other opponents to the HTS initiative include some military thinkers. They believe the HTS initiative is simply insufficient. They argue that instead of creating new capabilities, the U.S. military should better train, equip and employ already existent capabilities to achieve better results. Contrasting this swell of opposition with growing demand for HTS products and services raises the need to examine the HTS project from an independent, theoretically based, and rigorous perspective to help flesh out these issues.

D.   RESEARCH OBJECTIVE

This research project is designed to examine one of the many post proof-of-concept Human Terrain Teams currently deployed. The focal organization, named IZ6, is embedded within the 2nd Brigade Combat Team (2BCT) of the 1st Armored Division (1AD). The research is aimed at determining if the HTS concept provides competitive advantage, and whether it helps drive the U.S. military to pursue a more effective population-centric strategy. The fundamental assumption and starting point for this thesis

is that a population-centric approach to COIN is the right approach in most COIN and nation building environments. The research also aims to determine exactly how the HTS concept provides a unique knowledge-based competitive advantage in BCT operations. To achieve this, the research project is designed to examine the focal organization through several theoretical perspectives including Dr. Gordon McCormick's Mystic Diamond Model (a theory of insurgency and counterinsurgency), Institution Theory, and Knowledge Flow Theory. Of the three theories used, Knowledge Flow Theory provides the core framework and technique for the analysis provided in Chapter IV.

E.   RESEARCH QUESTIONS

Given the claims of success of the HTT proof-of-concept deployment in Afghanistan, and the controversy that the HTS concept stirs, an independent research project is necessary. To achieve the research objective, the analysis leverages existing theories to develop an overarching theoretical explanation of HTS success in the COIN environment. The analysis also focuses on how the HTS generates a knowledge-based competitive advantage. Hence, the analysis is organized to answer the following research questions: (1) How do enhanced population-centric HTT knowledge flows contribute to BCT competitive advantage? (2) How does the focal organization advance a population-centric strategy?

F.   ORGANIZATION OF THESIS

Each chapter of this thesis is designed to progress in a logical flow beginning with the fundamental assumption that a population-centric approach in COIN and nation building is the most appropriate strategy. From this, the evaluation of the focal organization ensues. The balance of this thesis is organized as follows:

Chapter II – Background. From a broad perspective, this chapter discusses the theoretical underpinnings and assumptions supporting the research. In doing so, this chapter summarizes the Mystic Diamond Model (a theory of insurgency and counterinsurgency), Institution Theory, and Knowledge-Flow Theory. These theories are leveraged implicitly and explicitly later in the research to evaluate how the focal

organization addresses the demands of the dynamic and complex operational environment. Chapter II also introduces the HTS organization including its mission, structure, and operational concept. Finally, Chapter II discusses in more detail the controversy and opposition to the HTS project. This is of great relevance to the HTS project as it may impact future recruiting efforts.

Chapter III – Research Method. Chapter III provides a detailed discussion of the case study method used. For instance, to address the research questions above, the analysis is based on a literature review of Knowledge-Flow Theory, Institution Theory, theories of insurgency/counterinsurgency. Additionally, interviews of experts associated with the HTS and the focal organization are conducted to obtain qualitative data necessary for analysis. All of the data are inductively analyzed to develop a better understanding of how the focal organization contributes to BCT competitive advantage and advances a population-centric strategy.

Chapter IV – Results. This chapter examines three narrative accounts provided by IZ6 that describe the HTT's embedded operations. The chapter uses concepts and methods consistent with Knowledge Flow Theory to show how IZ6 creates, shares, and harnesses knowledge of the population to improve the BCT's competitive potential and advance a population-centric strategy. By drawing from the analysis, the chapter generalizes themes that establish the basis for enhanced competitive performance. It also identifies potential pathologies that could diminish or inhibit competitive potential over time. The themes drawn in the chapter directly answer the research questions and establish the basis for Chapter V.

Chapter V – Conclusions and Recommendations. This chapter provides several conclusions that can be inferred from the research results. Additionally, the chapter discusses the research results in the context of the HTS project controversy to draw a broader set of potential knowledge flow pathologies that need to be addressed. This broader set of pathologies combined with HTT specific pathologies provides the basis for closing recommendations.

G.   BENEFITS OF STUDY

This thesis provides an evaluation of the embedded Human Terrain Team concept and the Human Terrain System as a whole from a unique theoretical perspective that combines Institution Theory, McCormick's theory of insurgency/counterinsurgency, and Knowledge Flow Theory. Therefore, the research contributes a new way of describing the merits of the HTS concept as they relate to evolving the project and diffusing controversy. The research directly attributes embedded HTT operations with enhancing a supported unit's competitive potential by creating, sharing, and harnessing persistent knowledge of the population. Moreover, the research demonstrates how the embedded HTT concept advances a population-centric strategy to COIN and nation building by increasing the number and improving the quality of social interactions between military personnel and the civilian population. The research also reveals hurdles to success if certain policies and capabilities are not implemented over time. To address these pathologies, the research provides specific recommendations that can help ensure future success.

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II. BACKGROUND

This chapter provides important background information necessary to understand the problem addressed through this research, and the research approach undertaken. It first describes the combined theoretical perspective used to frame this research, and then provides details associated with the HTS, HTT, and associated controversy.

A. A COMBINED THEORETICAL PERSPECTIVE

The theoretical framework used in this research reflects a necessary combination of several theories and models. Each theory provides a unique construct for understanding one or more aspects of the dynamic COIN environment and the Human Terrain System. By leveraging established and emerging theories and models, the mission, organization, and operational concept of the HTS can be evaluated within the complex COIN environment. This evaluation can identify potential strengths and weaknesses of the current HTS project, and assess how well the overall concept supports a population-centric strategy to COIN operations. This first section includes discussion of three theories and models: (1) Mystic Diamond Model; (2) Institution Theory; and (3) Knowledge-Flow Theory.

1. Mystic Diamond: A Model for Insurgency/COIN Strategy

Models represent important theoretically based tools for organizing thoughts and analyses. Dr. Gordon H. McCormick developed the Mystic Diamond Model of insurgency and counterinsurgency as a mechanism for understanding and evaluating insurgent/counterinsurgent contests. The model explains these competitions as rivaling dynamic processes that convert inputs into outputs. The purpose of these processes is to yield outputs that extend the competitors' authority. Increased authority allows competitors to generate more inputs and ultimately continue the cycle of expanding

authority. The goal of each competitor is to use the process (guided by strategy) to expand his authority effectively enough to squeeze the opponent out of the contested political space. Figure 1 shows the Mystic Diamond Model adapted to this research.
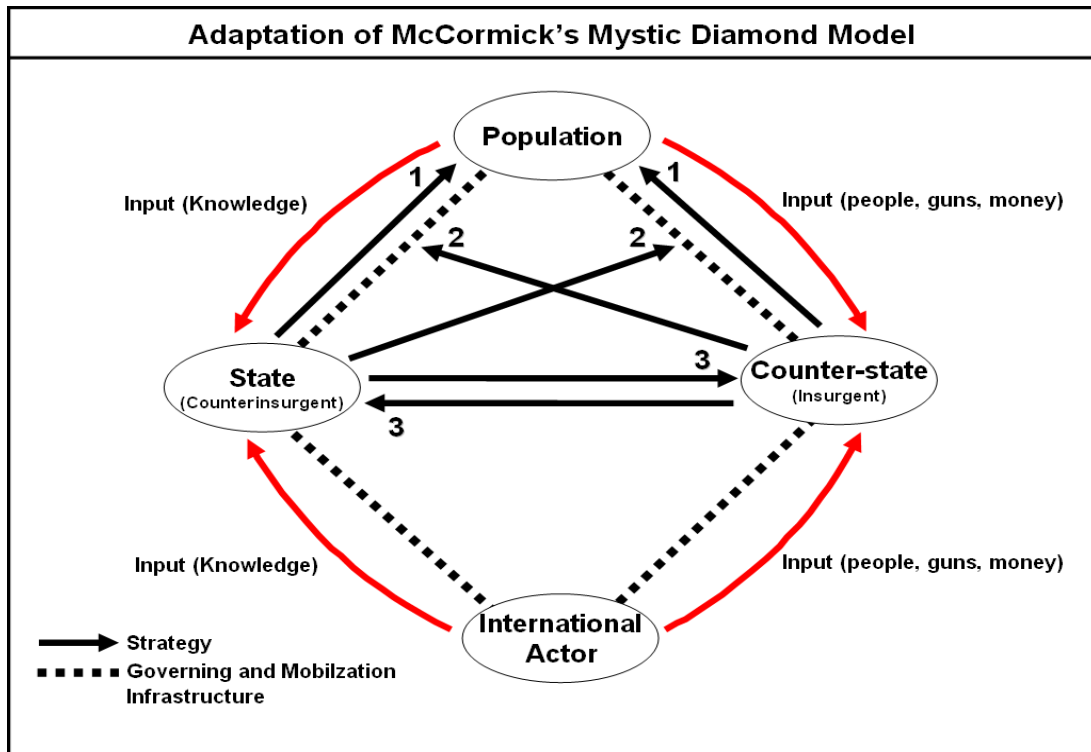
Figure 1.   McCormick's Mystic Diamond Model.

The model identifies four main entities relevant to the competition and places them at the four points of the diamond. On the left is the state (counterinsurgent), on the right the counter-state (insurgent group). At the top is the population and at the bottom is the international actor. The dashed lines between points on the diamond represent an infrastructure and relationship connecting each group to either the population or the international actor. Through its infrastructure, the competitor converts inputs into outputs. For instance, the infrastructure connecting the core insurgent group with the population is the governance and administrative control the core exercises over the population. The stronger the connection, the more effectively the core group can assert its authority and control over the population. As this connection strengthens, the easier it becomes to

18

mobilize the population to provide additional inputs (e.g., people, guns, and money). These inputs are used to extend further the core group's authority and control, and contribute to a self perpetuating growth cycle (Schaner, 2008c).

It should be noted that the process works exactly the same way for the state. However, in this case, the state is seeking knowledge of the insurgency as the input from the population. Through the state's infrastructure, it can convert this input into an output that also extends its authority in a self perpetuating cycle. The output from the state's perspective is improved protection of the population from insurgent activities. If the state can demonstrate its ability to secure the population from insurgents, then it will gain credibility, extend its authority, and ultimately displace or defeat the insurgency. The state achieves success if it can dry up support for the insurgency and extend its authority, legitimacy, and control over the contested population and political space (Schaner, 2008c).

The Mystic Diamond Model is based fundamentally on two opening arguments. First, in the *beginning phase* of conflict an *asymmetry of capability* exists between the insurgent and counterinsurgent. This asymmetry, as described in Chapter I, is the insurgent's and counterinsurgent's comparative advantages and disadvantages of knowledge and force. Briefly, the counterinsurgent (usually the state in power) has a force advantage, but knowledge disadvantage. Conversely, the insurgent has a knowledge advantage, but force disadvantage. The insurgent's knowledge advantage is obtained from a supportive population in the form of anonymity. This anonymity trumps the counterinsurgent's traditional means of collecting intelligence, and enables the insurgent to exercise the initiative by choosing the time and place of attack. Unlike conventional conflict, opponents in this environment must compete first to win the population to overcome their comparative disadvantages. The population can provide either *knowledge* to the counterinsurgent or *material resources* to the insurgent. Hence, the population holds the key to success for both the insurgent and the counterinsurgent (Schaner, 2008c).

The second argument that gives rise to the Mystic Diamond Model is related to the first – that the state is a *force in being* and the insurgency is a *force in development*. The implications of this argument are that the insurgency needs to grow to win, and the state needs to displace or suppress the insurgency below its breakpoint to win. Both sides attempt to overcome their disadvantages by expanding their authority. Expanded authority strengthens the connection that either the insurgent or counterinsurgent has with the population. A strengthened connection yields an improved ability to convert inputs into outputs. Again, the population holds the key for both opponents. The insurgents depend on the population to grow because they can provide material resources and support. Conversely, the population can inform the state of insurgent activities if it is so compelled (Schaner, 2008c).

From these opening arguments, the model describes insurgency and counterinsurgency as a *symmetrical* feedback system of strategies incorporating a series of inputs, processes, and outputs. Frequently, conflicts involving insurgent groups are referred to as "asymmetric." This is not entirely accurate from a strategic perspective. Insurgent/counterinsurgent struggles are *symmetrical* (as described by the Mystic Diamond Model) because both sides must pursue the same sequence of strategies to defeat the other (e.g., work to win the population's support first) (Schaner, 2008c).

The primary implication of the Mystic Diamond Model is that both the insurgent and counterinsurgent should pursue a path to victory through a sequential series of strategies that initially focuses on the population. Note in Figure 1 that these strategies are indicated by the numbered arrows emanating from the opposing groups and are pointing to either the population or the opponent's infrastructure or core group. It is important to note here that the Mystic Diamond Model is scalable. One can use it to perceive or evaluate a contest at the national-strategic level or at the village level. Thus, when applying the model, it must be recognized that in one village it may be appropriate for the counterinsurgent to pursue strategy 1, while in another; the counterinsurgent may be able to pursue strategy 2 or 3. Additionally, the Model does not prohibit applying strategy 3 if the population provides enabling knowledge. However, the Model cautions that by beginning with and emphasizing strategy 3 a counterinsurgent is likely to alienate

the population, act indiscriminately (even though unintentionally), and is likely to produce more insurgents than he kills by his numerous discrete kinetic actions. Instead, pursuing the sequence of strategies prescribed above, the counterinsurgent is more likely to win by undermining the insurgency with the population's support (Schaner, 2008c).

While the Mystic Diamond Model prescribes an appropriate sequencing of strategies for the counterinsurgent, operationalizing these strategies can be difficult. Strategy 1 in particular is difficult for an intervening counterinsurgent like the United States in Iraq or Afghanistan. Compelling the population's support in a completely foreign environment provides unique barriers such as language, culture, and ingrained mistrust. Chapter I noted that ensuring security of the population doesn't guarantee its cooperation. The barriers noted above are the reasons for this lack of guarantee. To gain the population's cooperation, the counterinsurgent must ensure his authority and control of the population doesn't undermine or disrespect the people's cultural and societal rules, norms, and beliefs. To illustrate that compelling popular support requires more than providing security, we turn briefly to the example of the "Awakening" of Anbar province in Iraq 2007.

Recent inroads made by the United States military in Anbar province can in large part be attributed to al-Qaida's blundering disregard for the social and cultural rules, norms, and beliefs of the people they controlled (Michaels, 2007). Al-Qaida's murderous methods of "security" combined with radical social and cultural infringement's caused the tribes of Anbar province to collectively seek American protection (Kilcullen, 2007). This movement has been labeled the "Anbar Awakening" and stands out as a promising sign for U.S. efforts in Iraq.

Since the Awakening began, U.S. forces have had the opportunity to build upon initial success by strengthening ties with the population (Michaels, 2007). By adopting culturally intelligent and appropriate methods of engaging sheiks and the population, the U.S. has successfully maintained a vastly improved security situation in Anbar (Michaels, 2007). In essence, the Awakening provides a real world example of the Mystic Diamond Model in action. Following the Mystic Diamond Model, the counterinsurgent is

compelled to pursue the population first. The blundering actions of al-Qaida significantly alienated the people of Anbar, and this affect provided the opportunity for American forces to engage the population and compel its support.

The lesson learned from Anbar is that the counterinsurgent must ensure security and services in a way that is respectful of the people's social and cultural rules, norms, and beliefs. Only then can the counterinsurgent hope to compel active popular support and cooperation. This example also serves to illustrate how important security and the demonstration of cultural respect and knowledge are with respect to influencing popular perceptions, preferences, and behaviors. The focus on understanding and influencing popular behaviors leads us to Institution Theory and the need to discuss how this theory explains the behaviors of social entities (Kilcullen, 2007).

2. Institution Theory

Institution Theory provides an effective way of looking at any social phenomenon (including insurgency/counterinsurgency). This theory is based on the premise that "institutions are the foundation of social life," and that behaviors of social entities or collectives (e.g., members of a society, or ethnic groups) are directed by *rules*, *norms,* and *beliefs* (Campbell, 2004; Scott, 2001). This provides a very useful construct for understanding why social entities or collectives behave the way they do as they interact with their environment. For instance, Institution Theory can be leveraged to explain why insurgent groups form, why they act, and why people support or don't support them. In essence, Institution Theory can be applied in the insurgency/counterinsurgency context to understand human behaviors and decisions as they are influenced by *rules*, *norms* and *beliefs*. Understanding human behavior is crucially important for the research because the Human Terrain System is expressly designed to obtain this kind of knowledge and supply it to the host brigade.

Examining Institution Theory more closely reveals that *rules* amount to explicit "regulative processes" such as policies, laws, inspection routines, workplace rules and incentives. This first layer of influences represents a coercive regulator of behavior because it is imposed and enforced by the rule of law to cause acceptance. A rule's legitimacy rests largely on the imposing entity's ability to enforce it (Nissen, 2007, p. 5).

The second of the three regulative processes, *norms,* represents morally accepted practices by the social collective. These behaviors are governed by normative mechanisms and are based on a more tacit and collective understanding of what is acceptable or not acceptable outside the strict letter of the law. Thus, norms are the accepted means by which a collective social entity pursues a set of goals. A norm's legitimacy is largely based on a social entity's collective moral acceptance – an expectation – of the practice (Nissen, 2007, p. 5; Johnson, 1982, p. 44).

The third and last regulative process of Institution Theory is *belief system*. A collective social entity's beliefs are perhaps the most tacit and influential regulative process governing its behavior. When members of a social system share a common set of beliefs, the adherence to accepted behaviors will likely persist and be difficult to change over time. Strong beliefs about determinant factors (e.g., security, survival, and honor) are likely to cause a social entity or group to accept or reject rules and norms (Nissen, 2007, p. 6).

In the insurgency/counterinsurgency context, Institution Theory is applied by relating it to a discussion of *revolutionary causes* offered by Chalmers Johnson in his book *Revolutionary Change*. He argues that insurgencies can develop when a society becomes critically disequilibrated, and when a motivated revolutionary group perceives an opportunity for seizing power from below (Johnson, 1982, p. 62). According to Johnson, social disequilibrium can occur when a governing authority's policies (rules) fail to meet the expectations (norms) and values (beliefs) of society. He refers to these as endogenous causes and notes that certain other exogenous causes (e.g., military conquest, trade, introduction of new technologies etc.) can also contribute to disequilibrium (Johnson, 1982, p. 72). Note the association of policies, expectations, and values to rules,

norms, and beliefs respectively. The alignment of these behavioral drivers provides the link that enables Institution Theory to explain the causes of insurgency and social behavior.

Going a step further, Johnson describes the conditions within a disequilibrated society likely to give rise to revolution. For instance, if the governing party refuses to address or is actually incapable of addressing the root causes of social disequilibrium, then the government begins to suffer from "power deflation" (Johnson, 1982, p. 72) The problem is exacerbated when the government begins to suffer from a "loss of authority" This occurs when the government is no longer *perceived* by a segment of its constituent population as *capable* or *legitimate*. This loss causes any government use force to be perceived as ill-legitimate and worthy of opposition. It is as this point that insurgent groups may begin to take root in segments of the population most disconnected from the government. This condition is described in the Mystic Diamond Model as the weakening or loss of the dashed line between the government and the population. This condition is also described by Institution Theory as the point where a population segment's collective beliefs drive its behavior toward ignoring government rules and supporting alternative emergent authorities (e.g., an insurgent group that demonstrates control where the government does not).

To appropriately scope the application of Institution Theory to this research, it is appropriate to consider its application under circumstances where the contest persists (e.g., Iraq and Afghanistan), and is therefore relatively evenly matched. This means that neither the state nor insurgent group suffers from wholesale power deflation or authority loss across the entire population and is capable of wielding some influence and control across various contested segments of the population. If this were not the case, then the contest would be over and one side would win. Therefore, to be useful for the analysis, Institution Theory is applied where an evenly matched contest requires reliance upon strategy to win – enter the Mystic Diamond Model (Schaner, 2008c). Furthermore, Institution Theory fits in the overall framework most appropriately at the point where a

counterinsurgent has established an acceptable degree of security, and where observing social and cultural *rules*, *norms*, and *beliefs* are recognized as essential for compelling active cooperation.

In summary, Institution Theory provides a window into understanding why insurgent groups form, why they act, and why people support or don't support them. When combined with Chalmers Johnson's description of revolutionary causes and disequilibrated social systems, we see that *rules*, *norms*, and *beliefs* correlate with *policies*, *expectations*, and *values*. For instance, when a government's policies (rules) don't measure up to constituent expectations (norms) and values (beliefs) then the social system becomes disequilibrated and the seeds for insurgency begin to sow. Additionally, Institution Theory describes insurgency as a social phenomenon dependent on popular perceptions of authority, capability, and legitimacy. These perceptions (tacit beliefs) are what will most likely decide who succeeds or fails in the insurgent/counterinsurgent struggle. Thus, the struggle between insurgent and counterinsurgent over the contested political space is population-centric and perception based, and therefore waged squarely in the information and knowledge domains. It is therefore fitting to discuss next Knowledge-Flow Theory as a framework for describing the dynamics of this domain.

3.   Knowledge Flow Theory

Knowledge-Flow Theory applied within the COIN context complements Institution Theory. Where Institution Theory reinforces perceptions and beliefs as principle drivers of popular attitudes and decisions, Knowledge-Flow Theory provides a framework for evaluating how information and knowledge move about the competitive space to influence these drivers. Furthermore, Knowledge-Flow Theory can be used to examine specific knowledge producing and harnessing organizations like the HTS to determine how they use knowledge "flows" to yield a competitive advantage. This thesis leverages Knowledge-Flow Theory to examine how the HTS creates, organizes, formalizes, and shares social and cultural knowledge to enhance the counterinsurgent's (e.g., host brigade) competitive advantage.

a.   *Knowledge Uniqueness*

Knowledge-Flow Theory begins with a definition that *knowledge* is different from information or data such that it enables one to take action (e.g., decide which side to support, selectively engage a counterinsurgent, conduct COIN operations etc.) (Nissen, 2006). Where information and data serve to inform knowledge by providing meaning and context, or reduce uncertainty, knowledge is uniquely powerful because it represents an *asset* that directly enables action and increases competitive potential (Grant, 1996; Nissen, 2006). Going a step further, Knowledge-Flow Theory differentiates between *explicit knowledge* and *tacit knowledge*. The theory links the competitive potential of either type of knowledge to its *uniqueness*. The more unique a piece of knowledge is, the more unevenly distributed it is (Nissen, 2006).

According to the theory, knowledge distribution correlates directly to competitive potential. For instance, knowledge that is *evenly* distributed across the competitive space should confer no competitive advantage to either side because both sides have it. However, explicit knowledge that can be kept secret or tacit knowledge that cannot be easily transferred is said to be *unevenly* distributed. The *uneven* distribution of knowledge across the competitive space confers a competitive advantage to the entity possessing it. Thus, Knowledge-Flow Theory directly links the power of knowledge – its competitive potential – with its degree of *uniqueness* and as a function of its distribution across the competitive space. The notion of knowledge distribution implies that knowledge moves multidimensionally across the competitive space and reveals next major concept of Knowledge-Flow Theory – the concept that *knowledge flows* (Nissen, 2006).

b.   *Knowledge Flows*

According to Knowledge-Flow Theory, explicit knowledge, which transfers easily, tends to distribute itself evenly across the competitive space. Methods of explicit knowledge transfer such as the spoken word, written messages, visual images, radio messages, or computer networks represent common means by which knowledge bearing entities choose to distribute this kind of knowledge. In contrast, slower methods

of *tacit* knowledge transfer such as behavioral observation, mentorship, story telling and learning-by-doing exist, and are used to make tacit knowledge move across knowledge bearing entities. Tacit knowledge is said to be "sticky" and uniquely contained within knowledge bearing entities (e.g., individuals or groups). Additionally, tacit knowledge is highly influenced by individual or group culture, language, and situational context – properties that are in and of themselves highly tacit and unique (Nissen, 2006).

Referring briefly back to the Mystic Diamond Model, the knowledge obtained from the population about insurgents correlates with the input needed by the counterinsurgent from the population. The counterinsurgent obtains this knowledge through a combination of explicit and tacit knowledge flows. For instance, a local tribal leader may choose to inform the counterinsurgent of the activities of an insurgent (explicit knowledge flow). However, compelling the tribal leader to give this knowledge may first require engaging him over an extended period of time and learning his behavioral drivers. This in and of itself represents a potentially long and slow process of tacit knowledge flow through direct observation, interactive experiences, and trust building (Nissen, 2006).

The above example illustrates why tacit knowledge tends to flow more slowly, but tends to yield a higher competitive potential. The notion of taking a deliberate and "slow" approach to earn the trust of a tribal leader illustrates the kind of knowledge that is ultimately most important in COIN – tacit knowledge of the population. While the HTS provides means for creating and sharing both explicit and tacit knowledge, the emphasis of the research is on *tacit* knowledge flows generated by the HTS. Given the dynamism and multidimensional aspects of the competitive COIN environment, knowledge that flows between or among competitors or allies may follow complex paths. For Knowledge-Flow Theory to be useful for the analysis, knowledge flows are examined according to various dimensions. The Theory describes a method of visualizing knowledge as it flows across these dimensions. Next we discuss *knowledge dimensions* as the third and last important concept of Knowledge-Flow Theory (Nissen, 2006).

c.   *Knowledge Dimensions*

Knowledge-Flow Theory provides the knowledge flow diagram to visualize knowledge flows across a competitive space. The vertical axis of this graph represents knowledge *explicitness* – the degree to which knowledge can be codified. The horizontal axis represents the *reach* a piece of knowledge exhibits across an organization (e.g., HTT, brigade, population). This dimension provides a measure of the degree to which knowledge (whether explicit or tacit) has been socialized from an individual to a group, and from a group its broader organization or population (e.g., from a small segment to a large segment of a society). The third axis represents the knowledge *life cycle* dimension. This dimension characterizes the type of activity associated with a knowledge flow (e.g., create, share, apply). The three axes noted above are combined with the fourth dimension of time, depicted as a thin or thick line indicating the relative speed of a knowledge flow. A thick line represents a relatively slow knowledge flow usually associated with tacit knowledge flows. Conversely, explicit knowledge flows are typically depicted with thinner lines implying a more speedy transfer rate. Figure 2 provides a visualization of knowledge flows in four dimensions (Nissen, 2007, p. 9-11).
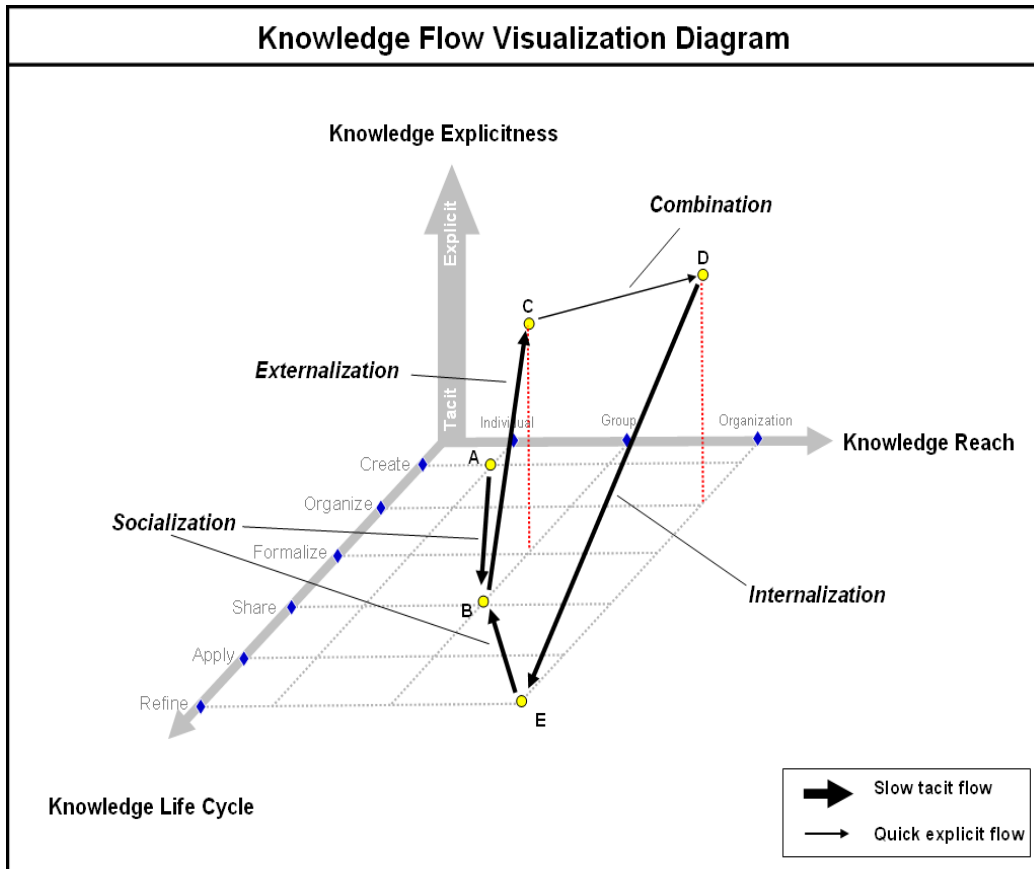
Figure 2.   Knowledge Flow Visualization (From Nissen, 2006).

This graph is used in the analysis to examine HTT knowledge flows. More specifically, the thesis uses this analytical tool identify how the HTT produces and shares important knowledge with the host brigade and the population. In essence, the knowledge flow diagram will highlight how the HTT performs its bridging functions.

Examining the graph more carefully, we see in this generic example how knowledge flow patterns relate to four knowledge-flow processes: socialization, externalization, combination, internalization (Nonaka, 1994; Nissen, 2006). Beginning with point A, we see tacit knowledge created at the individual level (e.g., HTT member develops innate sense of a tribal leader's character and motives). The flow from point A to B represents the *socialization* and sharing of this piece of tacit knowledge to the group level (e.g., other HTT members as they interact with tribal leader).

29

From point B to C we observe the *externalization* flow. This represents the codification and formalization of tacit knowledge to explicit knowledge at the group level (e.g., HTT produces a written personality profile of tribal leader). Note that is process correlates with what was noted above as the producer's codification of the tacit knowledge into an explicit form.

The *combination* flow from point C to D reflects a movement (transmission) of explicit knowledge to the organization level along the reach dimension (e.g., delivery of the personality profile to brigade staff). The combination flow is represented by a thinner line because this flow consists almost entirely of explicit knowledge that is transferred via some communications means. Members of the brigade staff combine this piece of explicit knowledge with what they already collectively know about the tribal leader and the broader situation. This increases the brigade's overall knowledge stock.

Next, the *internalization* flow from point D to E reflects a movement from explicit to tacit knowledge at the same organization level. This happens when the new knowledge received is examined within the context of previous experiences and knowledge of the leader and the broader situation. Note that this knowledge flow correlates with what was previously described as the reconstruction of signals into tacit knowledge by the consumer. Hence the D to E knowledge flow vector moves from the explicit plane at the organizational level to the tacit plane where the new knowledge amounts to a refinement of older knowledge. Finally, we complete the knowledge flow loop with a reverse socialization flow from Point E to B. This flow vector indicates tacit knowledge moving from the organization to the group level (Nissen, 2007).

Now that the knowledge flow diagram has been introduced, the summary of Knowledge-Flow Theory is complete. It is now possible to use a combined approach in applying the Mystic Diamond Model, Institution Theory, emerging Knowledge Flow Theory to evaluate the Human Terrain System. Before the analysis can ensue however, a brief introduction of the HTS mission, organization, and basic operational concept from the HTT perspective is required.

B.   THE HUMAN TERRAIN SYSTEM

The wars in Iraq and Afghanistan have provided the incentive to re-learn counterinsurgency warfare and to reexamine old COIN doctrine. It is within this context that new ideas like the Human Terrain System (HTS) have cropped up with the goal of improving knowledge necessary for winning counterinsurgency. The HTS mission, organization, and operational concept are designed to compel strategic change by implementing change first at the tactical level. Because the HTS embodies an approach to warfare that is non-conventional and population centric it represents a kind of conceptual insurgency within the massive institution of the U.S. military. The U.S. Army and Marine Corps Manual on counterinsurgency describes this sentiment well by asserting the need for change and upending conventional concepts. To illustrate, the manual states that "The [conventional] approach concentrates on physically destroying the unseen opponent embedded in the general population… [This approach is] precisely what the manual rejects. Once that signal distinction is drawn, a host of implications follow, upending conventional precepts" (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. xxiv).

1.   Mission of the Human Terrain System

Although much wrangling about the HTS exists among military leaders, strategists, and academicians, the project has achieved significant buy-in from the Secretary of Defense (Gates, 2008). Buy in from the top combined with anecdotal evidence of HTS success in the field will likely continue the pressure to expand and grow the project.

At the most fundamental level, the Human Terrain System and its component Human Terrain Teams (HTTs) are conceived to focus U.S. COIN and nation building operations on the surrounding population. The mission statement asserts that the HTS will:

Conduct operationally-relevant, open-source social science research, and provide commanders and staffs at the BCT/RCT and Division levels with an embedded knowledge capability, to establish a coherent, analytic cultural framework for operational planning, decision-making, and assessment (HTS Capabilities Brief, 2007).

By providing the counterinsurgent with social science research relevant to his operations, the HTS is the embodiment of the essential first step toward changing broader institutional thought and structure. Highlighting this change further requires relating the mission statement to the theoretical framework and the new counterinsurgency manual. We achieve this by briefly discussing the social science research *techniques* used by HTTs in the field. Discussing techniques reveals just how different the kind of information HTTs obtain really is compared to the kind of information needed to drive conventional military operations.

The techniques used by HTT members are derived primarily from qualitative methods associated with ethnographic research (Schaner, 2007). The principle methods used by HTT members include: participant observation, informal interviews, and semi-structured interviews (Schaner, 2007). Briefly, participant observation is cultural immersion. When conducting participant observation, the researcher lives and works among the people to learn their language and witness patterns of behavior (Fetterman, 1998, p. 35). Moreover, the goal of the participating observer is to internalize fundamental "beliefs, fears, hopes and expectations of the people under study" (Fetterman, 1998, p. 35). Additionally, HTT members frequently conduct informal interviews (open ended casual conversations) while they are observing through participation. Participant observation and informal interviewing is somewhat haphazard and unsystematic. However, these open ended techniques provide a much needed baseline help determine more refined research methods such as interviews, projective techniques, and questionnaires (Fetterman, 1998, p. 35).

The third principle method HTT members use to learn the population is the semi-structured interview (Schaner, 2007). The semi-structure interview technique is the verbal equivalent of a questionnaire (Fetterman, 1998, p. 38). Thus, while the goals of Participant Observation and the Informal Interview are open ended and exploratory, the

goal the semi-structure interview is to answer specific research goals (Fetterman, 1998, p. 38). Information obtained by interviews is compared by the researcher and placed into the "context of common group beliefs and themes" (Fetterman, 1998, p. 38).

Now that we have discussed the purpose of the HTS and highlighted HTT research methods, a correlation can be drawn between HTS goals, the theoretical framework, and the new direction set forth in the counterinsurgency manual. The research methods employed by the HTT are expressly designed to obtain critical information of popular behaviors drivers, decisions, perceptions, and preferences. Knowing this kind of is critical to pursuing a population-centric approach to COIN. It is now appropriate to introduce the broader HTS organizational structure as it is design to support HTT research.

2.   Human Terrain System Organizational Structure

The organizational structure of the HTS is designed to provide unique social-cultural knowledge and expertise not normally associated with the U.S. Army. The HTS consists of seven components: (1) Human Terrain Teams; (2) Reachback Research Cells (RRC); (3) Subject Matter Expert (SME) network; (4) HTS tool kit (MAP-HT); (5) techniques; (6) human terrain information; and (7) specialized training. The following paragraphs briefly summarize these pillars and describe the contribution of each pillar to the creation and sharing of knowledge. However, because the first and primary pillar (the HTT) is such an important and core piece of the HTS concept, a full discussion of the HTT is reserved for the next section. Therefore, we start this discussion with the RRC.

The Reachback Research Cell (RRC) is the component of the HTS designed to support forward deployed HTTs and their host units by conducting detailed analysis of data and information collected by HTTs in the field. RRCs also provide detailed responses to Requests for Research (RFR) submitted by HTTs operating in the field. RRCs are comprised of former HTT members, cultural experts and highly skilled social scientists. The RRC is the principle coordinating agent of the Subject Matter Expert Network (SMEnet) (Schaner, 2007; Kipp, Grau, Prinslow, & Smith, 2006).

This SMEnet represents the third major component of HTS. This network of experts is distributed across the United States and includes additional cultural experts and social scientists working in academia and the government. Members of this network are not obligated to support or deploy with HTTs, but rather contribute on a voluntary basis when asked by the RRC. A considerable effort is currently underway to expand this network (Schaner, 2007; Kipp, Grau, Prinslow, & Smith, 2006).

The fourth pillar of HTS was introduced earlier as the MAP-HT toolkit. This hardware/software solution serves as the central human terrain database, HTT method of communication, human terrain visualization and analytical tool. MAP-HT is the primary interface through which HTTs communicate with the RRC. When this toolkit is fully implemented, it will be the IT solution that captures much of the explicit data, information and knowledge collected by HTTs operating in the field. It is the intent of the HTS project to distribute the information contained with MAP-HT to other military organizations and governments. Thus, MAP-HT is envisioned to be a large repository of data, information and explicit knowledge; a tool for analysis; and a mechanism for sharing data, information and knowledge across the HTS organization and outside of it (Schaner, 2007; Kipp, Grau, Prinslow, & Smith, 2006).

The fifth pillar of the HTS is the *technique* used by the HTT for creating and sharing locally situated knowledge of the population. The technique is commonly referred as "denied area ethnography/social science" or "combat ethnography." The label appropriately implies two distinctive features of the tradecraft: (1) the social scientist performs his or her duties in previously inaccessible areas (e.g., Iraq and Afghanistan), and (2) the social scientist is likely to perform his or her research in potentially hostile combat environments. In essence, the technique involves applying ethnographic tradecraft and research under combat conditions and compressed time cycles. According to some experts and critics, this practice is troublesome and faulty. For this reason, the practice of "denied area ethnography/social science" is at the core of the HTS controversy and is the source of much angst for social scientists. This controversy will be addressed in more detail later (Schaner, 2007; Kipp, Grau, Prinslow, & Smith, 2006).

The sixth pillar of the HTS is the stock of data, information, and knowledge it holds about the surrounding population (e.g. information about the roles, goals, relationships, and rules of behavior of an operationally-relevant group or person). The goal of the HTS project is to build knowledge stocks of the population of concern, leverage it immediately, retain it for future use, and share it with those who need it – so that it may be harnessed by the counterinsurgent to quell conflict, save lives, and defeat insurgencies (Schaner, 2007; Kipp, Grau, Prinslow, & Smith, 2006).

The final pillar of the HTS program is specialized training. Currently, at Forth Leavenworth Kansas, future HTT members are undergoing rigorous and specialized training in preparation for deployment. HTT members are receiving focused training related to the area and population to which they will be assigned. Additionally, HTT members are trained on the skills of conducting ethnography and social science research. Moreover, HTT members without prior military experience receive training on military culture and protocols (Schaner 2007; Kipp, Grau, Prinslow & Smith, 2006).

C.   THE HUMAN TERRAIN TEAM

To round out the introduction and background discussion of the Human Terrain System, a more detailed introduction of the Human Terrain Team and its organizational structure and method of employment is necessary.

1.   Human Terrain Team Organizational Structure

Each Human terrain Team consists of a small group of six to nine individuals who bring requisite social science and ethnographic skills needed to achieve the HTT research and advisory missions. The HTT is tasked with population immersion to obtain explicit and tacit knowledge first hand. By getting to know the people on a personal level, HTT members are better able to advise their host unit on what actions to take. HTT's work directly for the commanding officer of their host brigade, but each member is free to establish links and relationships with other members of the brigade staff. Figure 3 illustrates the organizational structure of a typical HTT (Schaner, 2007).

Human Terrain Team Organization

Team Leader	Expert Social Scientist

Research Manager — — — — RRC

| Cultural Analyst | Cultural Analyst | Cultural Analyst | Cultural Analyst | Cultural Analyst |
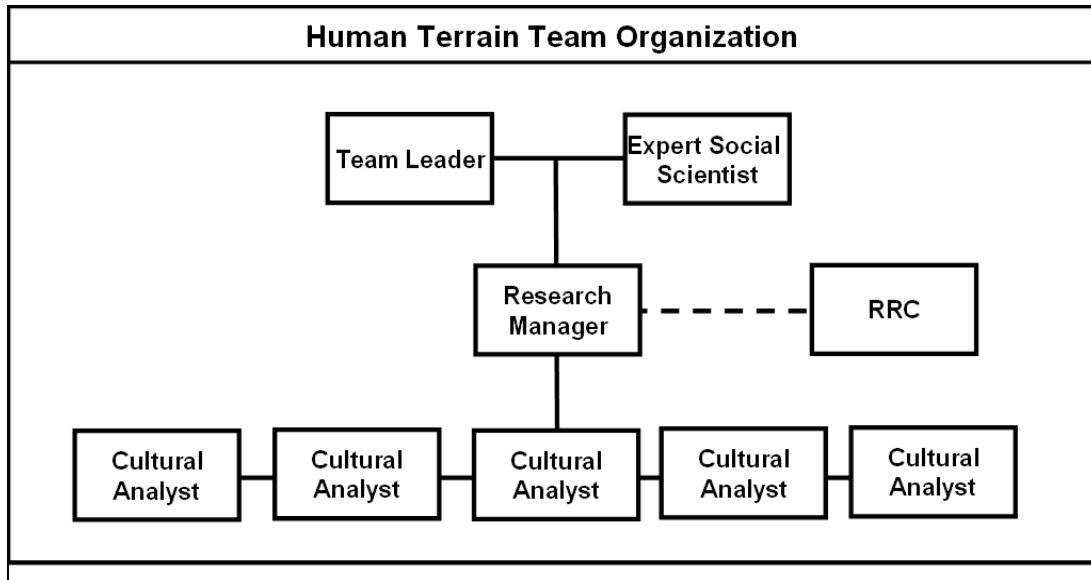
Figure 3.   Human Terrain Team Organization.

At the top of the diagram are the Team Leader and Expert Social Scientist. The leader's job is to ensure the commanding officer fully appreciates and integrates the capabilities of the HTT into brigade decision making and operations. The Team Leader also serves to educate civilian members of the team about the military culture within which they are working. This is essential to gaining the team's acceptance and credibility within the brigade. Sharing a position at the top of the HTT organization is the Expert Social Scientist. This person is typically a civilian PhD level anthropologist or social scientist. Ideally this person has *a posteriori* knowledge of the population in which he or she is immersed. However, when working in denied areas it is difficult to find and recruit persons with such expertise. Therefore, the Expert Social Scientist is leveraged for his or her research skills and socio-scientific experience. The social scientist is therefore the senior person performing integrative analysis that ultimately translates through the team leader into advice for the commander and his staff. Additionally, the Expert Social Scientist provides guidance and direction to the remaining HTT members. Each remaining member of the HTT is an experienced and educated cultural analyst (including the research manager) who is language trained and oriented on the area in which they become immersed (Schaner, 2007).

Because a typical HTT is stacked with capable and even senior people, the structure appears appropriate for achieving the HTT's research and advisory goals. To further illustrate the working concept of the HTS by way of its HTTs, a brief overview of how HTTs are employed is necessary.

2.   Human Terrain Team Employment

HTT integration was created to fill an important knowledge and capability gap endemic to the U.S. Army. The key to HTT success has been the way in which HTT members immerse themselves within the population, develop relationships, perform research, and advise the commander. It is integration and immersion that truly highlight the potential benefit of the HTS concept (Schaner, 2007).

To enhance the establishment and maintenance of enduring relationships between HTT members and host nation citizens, a unique rotational policy for HTT members has been adopted. Unlike an HTT's host unit (e.g., U.S. Army brigade) that rotates periodically, embedded HTTs are designed as permanent fixtures in brigade operating areas. Thus, HTT members provide essential continuity for rotating units by maintaining local contacts and relationships. The rotational policy of individual HTT members also emphasizes continuity. The rotation policy directs that HTT members can only be rotated one person at a time. Furthermore, the policy directs a reciprocal rotation that assigns returning HTT members to the supporting RRC, and supporting RRC members to the supported HTT. This means that individual members continually serve in the same HTT/RRC team for as long as the member remains in service. This persistence is essential for gaining deeper knowledge and trust of the local population (Schaner, 2007).

The rotation policy not only enhances continuity for rotating units and fosters enduring relationships, but also contributes to the growth of a broader "institutional memory." HTTs and RRCs work together. The information and explicit knowledge developed within the broader organization is captured in the MAP-HT toolkit and database. This information and knowledge are unclassified and available to just about anyone, including the broader HTS organization, and national security decision makers. However, there is no policy or doctrine that requires national security decision makers to

observe or consider the kind of knowledge being produced by the HTS. In fact, the designers of the HTS frequently refer to the development process as "building a plane in flight." This analogy highlights a problem that while buy-in from the top has been achieved (e.g., Secretary of Defense support, and Department of Defense funding), no overarching and coordinated strategy from the top is driving project development or implementation. This condition has implications for the projects development in so far that it has contributed to breeding controversy and opposition (Schaner, 2007a).

D.   OPPOSITION MOVEMENTS TO THE HTS PROJECT

In addition to the academic controversy associated with the HTS project, it is important to introduce two forms of opposition in more detail. The first form of opposition comes from the social sciences community. Organizations like the Network of Concerned Anthropologists (NCA) are strongly opposed to the notion of anthropologists supporting counterinsurgency operations. Additionally, there exists opposition for the project among government planners and analysts. Much of this opposition stems from a belief that available resources could be better used and that new projects like the HTS are largely unnecessary or insufficient.

1.   Network of Concerned Anthropologists (NCA)

Strong and organized opposition exhibited by the social science communities such as the Network of Concerned Anthropologists (NCA) may significantly impact future HTS recruiting efforts. Moreover, gross misunderstandings of the meaning of "human terrain" among military planners and a general lack of strategic coordination from the top have delivered opposition groups fertile material supporting their cause. For instance, the Department of Defense recently released a document entitled "Precision Engagement – Strategic Context for the Long War." This document briefly discusses the "need to Map the Human Terrain" to "[enable] the entire Kill Chain for the GWOT." However, the brief continues without ever mentioning the HTS project or any other capability for mapping the human terrain. Instead it advocates for the development of futuristic technologies that provide persistent observation of the battlefield. This document clearly

reflects a fundamentally conventional theory of victory in war that contradicts winning through the population, and fundamentally contradicts the purpose of the HTS. To make matters worse for the HTS project, the NCA promotes a link on its website directly to this brief and is therefore being used to drum up more opposition (Vine, 2007, p. B9).

The Network of Concerned Anthropologists (NCA) has leveraged their 1998 Code of Ethics to establish the basis for opposition. Through this code, the NCA charges that HTT members three ethical violations: (1) anthropologists providing direct assistance to military personnel who use this assistance kill other human beings violate the anthropological code of ethics; (2) anthropologists working with military forces are likely to obscure the true nature of their work and thus violate the anthropological codes of ethics; and (3) anthropologists providing direct assistance to military operations are likely to cultivate a perception that other anthropologists worldwide are not objective and trustworthy, but are "agents" of the U.S. government and military (Vine, 2007, p. B9).

The NCA promulgates and actively recruits opponents to the Human Terrain System. More specifically, they urge anthropology graduates and professionals to sign a petition that renounces the HTS project, and pledges their non-participation. The following is an excerpt from the NCA Pledge of Non-participation in Counter-insurgency that highlights the root of the group's opposition:

> While often presented by its proponents as work that builds a more secure world, protects US soldiers on the battlefield, or promotes cross-cultural understanding, at base [the HTS] contributes instead to a brutal war of occupation which has entailed massive casualties. By so doing, such work breaches relations of openness and trust with the people anthropologists work with around the world and, directly or indirectly, enables the occupation of one country by another. In addition, much of this work is covert. Anthropological support for such an enterprise is at odds with the humane ideals of our discipline as well as professional standards. (excerpt from NCA Pledge of Non-participation in Counter-insurgency: http://concerned.anthropologists.googlepages.com/NCA-pledge.pdf).

2. Opposition from Military Thinkers

In addition to opposition groups outside of the government, there are some circles of thought within the government that represent to a lesser degree a form of opposition to the HTS project. For instance, some military thinkers strongly believe the HTS concept is insufficient. Instead they support developing an entirely new social science career track and a supporting agency within the U.S. military. They advocate for the development of a professional military person who is highly educated and trained within the social sciences and who is immersed long term into a population of interest (Schaner, 2008).

For those promoting this idea, the concept of HTS is insufficient and incapable of revealing the kind of knowledge needed by the counterinsurgent to win the population and displace the insurgency. They argue that the long term solution to the myriad unconventional conflicts facing the United States now and in the foreseeable future hinges on the ability to deeply penetrate foreign societies and social networks prior to conflict. The career ethnographer provides the instrument and capability for achieving this level of immersion. To cultivate a deep level of knowledge, this ethnographer would dedicate his entire career to studying one particular group or region. The logic continues that having such deep knowledge will give the U.S. military a significant advantage and necessary resolution to uncover "indigenous means of mobilization, organization, and association." This, they argue, cannot be achieved reliably with the current HTS concept (Schaner, 2008).

III. RESEARCH METHOD

Chapter III discusses the research method used to examine the Human Terrain System in the COIN and nation building contexts. More specifically, the research method used examines the knowledge flow dynamics associated with the focal Human Terrain Team (known as IZ6), its host brigade, the Human Terrain System (HTS), and the population. Leveraging Yin (1994), the research follows the single-case study method and employs the theoretical frameworks above to guide the analysis. This chapter provides a blueprint for the analysis and describes a systematic process for repeated qualitative data collection and evaluation. The chapter is divided into three sections to discuss why the case study method is used for this investigation, the type of data collected, and the qualitative analytical approach used to inform results.

A. THE SINGLE-CASE STUDY OF AN EXTREME ORGANIZATION

Yin (1994) establishes rationale for conducting single-case designs. He discusses the *unique or extreme case* as one in which the unit of analysis represents a rare or new instance or phenomenon. Additionally, Yin associates the appropriateness of a single-case study with the need to test a significant theory. Analyzing the Human Terrain Team satisfies both of these requirements. Given that embedding HTTs into Army brigades represents a dramatic shift in counterinsurgency practice, is controversial, and is a new and recent phenomenon, the unit of analysis appears to lend itself to the single-case design. Furthermore, because the Human Terrain Team concept enables Army brigades to focus better on the population, a significant theory emerges to be tested. If the Human Terrain Team concept yields a significant competitive advantage to the counterinsurgent (i.e., the host unit), then we may draw inferences about the unconventional theory of victory in war as it relates to counterinsurgency and nation building operations. As noted above, this theory represents a fundamentally opposite approach for organizing, training, and equipping the force. Thus, the case represents a critical test of a significant theory (Yin, 1994).

The single-case study method is used in the research to guide the investigation. More specifically, the single-case study method is leveraged to bridge the theoretical framework and the data collected through logical evaluation. The evaluation includes a visualization of dynamic knowledge flows through and between the focal Human Terrain Team, its host unit, the population, and the Human Terrain System. Thus, the analysis represents a single-case from a holistic viewpoint (Yin, 1994, p. 39). This approach enables the research to observe rich dynamic knowledge flows within and around the focal organization, and provides a way of identifying processes that yield a knowledge-based competitive advantage. Using the case study interpretive method, the research focuses qualitatively on the research questions (i.e, how do enhanced population-centric HTT knowledge flows contribute to BCT competitive advantage? And, how does the focal organization advance a population-centric strategy?) (Benbasat, Goldstein, & Mead, 1987, p. 368-386). These kinds of research questions appear well suited for qualitative analysis and inappropriate for positivist or quantitative analytical methods (Klein & Myers, 1999, p. 67-94).

Moreover, the case study method ensures an acceptable process for research and provides the basis for repeated analysis in the future. Repeated iterations of data collection and analysis are crucial following this research to help ground the theory in the data (Eisenhardt, 1989, p. 532-550), and to help focus future research on evolving the unconventional theory of victory in war – even if it appears as "common sense" to most practitioners and strategists (Glaser, 1967). Finally, the single-case study method appears appropriate for this analysis because it begins by examining the basis of competitive advantage as predicted by Knowledge-Flow Theory, and because it attempts to ground this advantage in unconventional warfare theory. Thus, the research is more *explanatory* than descriptive (Yin, 1994, p. 6).

B. DATA COLLECTION

Data collection techniques used for the research include: (1) document review, and (2) interview. Briefly, documents provide important background information about an organization's mission, jobs, work processes, people, and technologies (Nissen, 2007,

p. 235). Additionally, documents provide important contextual information surrounding the HTS organization such as supporting theories, organizational issues, opposition movements, and controversies surrounding the HTS initiative (Nissen, 2007). Moreover, documents related to current counterinsurgency operations and strategies provide significant insight on aspects across the domain of analysis. Finally, reviewing documents also helps in the formulation of interview questions. The research is benefited by the researcher's continued access to HTS and HTT documents during the study. Thus, document review is a continual and essential process throughout the research.

Concurrent with the document review process, interviews are conducted with participants directly involved in the design and implementation of the Human Terrain System and Human Terrain Teams. Semi-structured interviews are conducted with probing and snowballing techniques (Rubin & Rubin, 1995; Nelson, Nadkarni, Narayanan, & Ghods, 2000, p. 475-507; Reich & Kaarst-Brown, 1999, p. 337-364). Briefly, the probing technique involves asking the interviewee additional questions that arise from previous interviewee responses. This enables the researcher to probe more deeply into important themes that emerge from the interview process. As the researcher gathers more detailed information from the interviewee, the snowballing technique is used to collect this information and add it to the body of research cumulatively.

Information solicited from organizational architects, leaders, and participants provides essential experiential insight that enhances the information provided by documents. Table 1 summarizes the sample frame. Each participant interviewed is a founding or participating member of the Human Terrain System organization or a deployed HTT. Thus, each interviewee possesses deep experiential knowledge of the project and organization. Moreover, the principal interviewee is the lead Social Scientist of the focal HTT currently deployed in Iraq.

Title	Organization
Project Manager	HTS
Director, Research Reachback Center	HTS
Senior Social Scientist	HTS
Cultural Analyst 1	RRC
Cultural Analyst 2	RRC
Director, Human Resource Development	HTS
Lead Social Scientist	Focal HTT

Table 1.   List of Interviews.

The interview sample conducted during the research spans the HTS organization's functional areas and levels. The participants reflect expertise across a broad range of jobs, and knowledge domains. All interviews of senior HTS personnel are semi-structured and occur over a two day period at a unique gathering of all HTS leaders, developers, and participants at Fort Leavenworth, Kansas in November 2007. Interviews with the lead Social Scientist of the focal organization occur daily via email over a four week period in July and August 2008. Data collected from senior HTS personnel contribute to the contextual and background discussions in Chapters I and II. Data collected from the lead Social Scientist of the focal organization serves as the basis of analysis in Chapter IV. This data revolves around three narrative accounts that illustrate HTT operations in support of the host unit. The Researcher is privileged with continued access to most of the participants, including the lead Social Scientist of the focal HTT. This enables the Investigator to clarify issues, probe more deeply into concepts, and to verify facts. Chapter V conclusions and recommendations are based on the synthesis of Chapter IV results and the background discussions in Chapters I and II.

C.   EXPLANATION-BUILDING CASE STUDY STRATEGY

The research method uses the Explanation-Building case study process (Yin, 1994, p. 110). The method is tailored to examine the data collected, draw inferences grounded in the theoretical framework, and generalize the obtained inferences to build themes that can inform future HTS design. More specifically, the inferences drawn represent stipulations of causal links between enhanced knowledge flows and competitive

advantage. Establishing the basis of competitive advantage through knowledge flow analysis helps to explain the research questions and reinforce the foundational theoretical premise of the research – that an unconventional (population centric) approach to COIN and nation building is a superior approach. Because the Explanation-Building case study strategy requires iteration (Yin, 1994, p. 111), this thesis can only represent an essential first step. The basis of this case study analysis as the first iteration requires a focus on one of the first post proof-of-concept HTT deployments – IZ6 in Iraq. At the time of this writing (September, 2008), there are sixteen HTTs deployed in total across Iraq and Afghanistan. These and future deployments provide ample opportunity for follow on research and comparative case analysis.

The case strategy in this research defines a basic three step process. The first step begins with analyzing the collected data (IZ6 narrative accounts) through a multidimensional knowledge flow visualization technique drawn from Nonaka (1994) and Nissen (2006). The second step uses the interpretive method to draw inferences from the knowledge flow visualization. Inferences drawn from interpreting knowledge flows are used to identify sources of competitive advantage as well as knowledge flow pathologies. The final step of the analytical process identifies themes grounded in the theoretical framework that can inform HTS design and COIN strategy.

The first two steps of the analytical process (knowledge flow visualization, and inference determination) are repeated for each narrative account. The third step (theme development) is completed at the end after the three narrative accounts have been analyzed. The remainder of this section discusses in detail the three steps comprising the analytic method.

1. Visualizing Knowledge Flows Multidimensionally

Step 1 of the research method is repeated three times – once for each narrative account. The step involves analyzing the collected data multidimensionally by graphically displaying knowledge flows pulled from the narrative. This technique is introduced in Chapter II and is expanded upon here. The technique holistically identifies knowledge flows associated with the narrative account to illustrate how knowledge is

created, shared, and harnessed across interacting organizations and people. Moreover, the technique involves visualizing knowledge flows graphically across four dimensions: *explicitness*, *reach*, *flow time*, and *knowledge flow life cycle*. This display is used to literally see how knowledge moves and transforms. The display also is used to help the reader make sense of how the studied organization generates a knowledge based competitive advantage.

Step 1 begins with a summary of the written narrative account provided by the lead Social Scientist of IZ6. From the narrative account, critical knowledge flows are identified and described. Next, the critical knowledge flows are converted into vectors and are placed into the visualization diagram to depict how the knowledge is created, shared, and harnessed across organizations and people. Finally, each knowledge flow vector is described in detail in relation to the four dimensions identified above. This description explains how new knowledge of the population is first created, and then shared with and harnessed by the focal organization. This description is necessary for inferring competitive advantages and pathologies.

2. Inferring Competitive Advantage and Pathology

Step 2 involves interpreting the knowledge flows revealed and described in step 1. Step 2 begins by examining the narrative account and associated knowledge flow analysis against the backdrop of the thesis context, theoretical framework, and the host unit's mission and strategy. The interpretation draws from Nissen 2006 to look for evidence that a particular knowledge flow contributes to improving the host unit's competitive potential. For instance, if a knowledge flow can be reasonably shown to grow the supported unit's knowledge stock, then an inference can be drawn (consistent with Knowledge Flow Theory) that the supported unit's competitive potential increases. In this way, the inferences of step 2 relate the knowledge flow analysis to the theoretical framework.

In a similar way, inferences are drawn to identify potential sources of knowledge flow pathology. For instance, if a knowledge flow vector or set of circumstances can be reasonably deduced to inhibit social interaction, feedback, or learning, then a specific

46

pathology is revealed consistent with the theoretical framework. This process is repeated for all iterations of knowledge flow visualization and for selected knowledge flow descriptions. Step 2 provides the necessary inputs for generalizing themes.

3.   Generalizing Themes

The final step of the qualitative analysis involves generalizing the output from step 2 into themes that can inform HTS design and COIN strategy. This requires identifying patterns that emerge from steps 1 and 2 and examining them within the thesis context, framework, and unit mission. The generalized analysis of knowledge flows and the identification of themes, such as sources of competitive advantage and pathology, helps identify items for consideration and informs the conclusions and recommendations of Chapter V.

For instance, if the analysis reveals a systemic pathology that inhibits socialization or the growth of unit knowledge stocks over time, then various aspects of overall HTS/HTT design may be drawn into question. On the contrary, if the analysis reveals a systemic source of competitive advantage, then various aspects of the overall HTS/HTT design may be validated. In either case, the analysis informs HTS/HTT design and subsequently counterinsurgency strategy.

In closing, Chapter III provides a blueprint for analyzing the Human Terrain System. More specifically, the research method described above focuses on leveraging existing theory and proven research techniques to examine an extreme organization and identify sources of competitive advantage or pathology. This chapter provides a basis for a repeatable and systematic process for collecting and evaluating qualitative data of a focal Human Terrain Team. The process is used in the next chapter to analyze IZ6 in detail.

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IV.   RESEARCH RESULTS

The Human Terrain System as a whole is a complex knowledge-based organization that creates and harnesses competitive enabling explicit and tacit knowledge flows. The principle HTS component for creating and sharing competitive enabling knowledge is the Human Terrain Team (HTT). This chapter analyzes the activities of one currently deployed Human Terrain Team named IZ6. The results focus on how IZ6 creates, shares, and leverages knowledge of the population to enhance the performance of its supported unit – 2nd Brigade Combat Team/1st Armored Division (2BCT/1AD). This chapter begins with a contextual discussion of IZ6 that includes a description of 2BCT/1AD, the environment, and the HTT's organization, roles, and personnel. Following this discussion, a detailed knowledge flow analysis of the team is performed based on three descriptive narrative accounts provided by IZ6 participants. Included within the analysis are discussions of how the team created and shared valuable knowledge that enhanced 2BCT/1AD's competitive potential. Also included in the knowledge flow analysis are discussions of potential knowledge flow pathologies. Graphical techniques are used to visualize knowledge flows to help the reader conceptualize the movement and transformation of knowledge in a way consistent with Knowledge Flow Theory. The chapter concludes by identifying themes drawn from the Knowledge Flow Analysis. These themes establish the basis for Chapter V conclusions and recommendations.

A.   CONTEXT

IZ6 is operationally attached to the 2nd Brigade Combat Team/1st Armored Division (2BCT/1AD). The HTT supports BCT operations across a large rural geographical area to the south and east of Baghdad, Iraq, called Operational Environment (OE) Striker. OE Striker comprises a physical area about four times the size of Baghdad City. Subordinate units of 2BCT/1AD are distributed across OE Striker and are assigned sub areas of responsibility that together comprise the whole of OE Striker. Each subordinate unit is called a Task Force (TF), another name for a battalion. The call sign

for each TF correlates with the name of each TF's subordinate OE. For instance, TF 2-6, known as "Iron Gator" operates within its subordinate OE named "Gator". 2BCT is the headquarters echelon to four maneuver TFs and two support TFs. The remaining three maneuver TFs are: TF 1-6/ "Iron Regulars", TF 1-35/ "Iron Knights", and TF 4-27/ "Iron Thunder". The support TFs, (TF 40 and TF 47) operate across OE boundaries and provide engineering and logistics support to the maneuver TFs. Currently TF 1-6 is under operational control of a different division and has been replaced by the 13th Georgian Battalion/TF Petro (Schaner, 2008d).

In addition to each Task Force, a Civil Affairs Battalion (CA BN) and an embedded Provincial Reconstruction Team (ePRT) are assigned to support 2BCT/1AD. The CA BN deploys teams to support each of the maneuver TFs within their assigned subordinate OE. The CA BN, like the HTT, is on staggered rotational policy designed to enhance knowledge and civil-military relationship continuity during periods of scheduled turnover. The embedded ePRT is deployed by the U.S. Department of State (DoS) and exists within the BCT's purview to help coordinate development efforts within the OE. Thus, a cooperative and mutually supporting relationship exists between the ePRT and the BCT. This relationship is centered on developing and implementing a Joint Common Plan (JCP) for non-lethal initiatives (e.g., reconstruction, revitalization, and development) within the OE (Schaner, 2008d).

OE Striker is comparatively stable at the time of this writing (September 2008). The OE is over 70% rural, containing only four population centers of note: Salman Pak, Jisr Diyala, Waheda, and Nahrawan. The remainder of the OE is very rural and has only small villages and settlements. The climate, geography, and sparse population distribution make OE Striker an ideal area for agricultural development and revitalization. Thus, reconstruction and economic development efforts in OE Striker emphasize developing agricultural capabilities, fisheries, and supporting infrastructure. 2BCT/1AD is responsible for working with the Government of Iraq (GoI), Iraqi Defense Forces (IDF), and other U.S. Government agencies such as the U.S. Department of State and U.S. Department of Agriculture, to develop economic opportunity in OE Striker. In addition to developing economic opportunity, 2BCT/1AD is responsible for performing

other missions such as counterinsurgency, population security, and reconstruction. IZ6 supports 2BCT/1AD efforts in all of its non-lethal missions by providing research support focused on the population and its needs (Schaner, 2008d).

IZ6 comprises six members all of whom have significant experience in various domains. The Field Social Scientist (SS), who is senior social scientist responsible for HTT research, has earned a joint PhD in political science and criminology, a master's degree in comparative religion, a master's degree in international security, and a bachelor's degree in Middle Eastern Studies. He is well published in areas such as religious and identity terrorism, political violence, politics, comparative security, and security administration. He has also consulted with many organizations on terrorism, counter-terrorism, and security administration. Working with the Field Social Scientist are two Research Managers, both Army retirees. One Research Manager is a 22 year veteran of the Special Forces with extensive experience in counterinsurgency, and the other is a 24 year Chief Warrant Officer with criminal investigative experience. The military Team Leader is an Army Reserve Captain with an undergraduate degree in Anthropology. One of the Research Analysts served in the Army during Vietnam as a medic and specializes in social/psychological counseling. He has an additional background in business management and education. Finally, the last Research Analyst has a master's degree in security administration and bachelor's degree in political science and criminology (Schaner, 2008d).

Collectively, IZ6 is a team with vast amounts of education and experience both in and outside the military. Together, they bring diverse knowledge sets and worldviews to the HTT and BCT. IZ6 members have established excellent working relationships with the BCT leadership and staff. The lead Social Scientist and members of IZ6 frequently meet face to face with many different BCT staff members who perform various leadership and planning functions within the Brigade. Interactions between IZ6 members and BCT staff members are both formal and informal. Formal meetings and briefings designed to exchange knowledge, promulgate mission requirements, improve situational awareness, develop plans, disseminate research findings, and identify knowledge gaps occur daily. Likewise, frequent interaction and exchanges between IZ6 members and

BCT staff occur also over meals and other informal or spontaneous settings. Additionally, IZ6 members frequently meet face to face, or communicate electronically or telephonically with Civil Affairs (CA) teams, ePRT members, RRC members, and local civilian leaders and contractors (Schaner, 2008d).

Within this apparently fertile knowledge flow environment, IZ6 members are actively involved in supporting ePRT/BCT population-centric non-kinetic activities. For instance, IZ6 members help identify potentially high-payoff revitalization projects and potentially effective local civilian contractors to perform work. Hiring locals to perform improvement projects is an essential component of reconstruction. It helps establish connections between local civilians and military personnel, empower local leaders, alienate insurgents, restore services, and ultimately compel the population's support (Schaner, 2008d).

In addition to identifying important projects and reliable contractors, IZ6 members frequently employ their knowledge of the population by role playing the population and its viewpoints during ePRT/BCT planning sessions. For instance, in a reconstruction/contracting scenario, IZ6 role plays the population to help the ePRT/BCT better predict potential outcomes, and identify risks associated with candidate courses of action (COAs). In a general sense, role playing the population raises the BCT's competitive potential by enabling BCT planners to better understand the human aspects of the operational environment within which they are working. In this case, knowing what is important to Iraqis and learning how to employ local workers within their local tribal structure and cultural framework represents an important human dimension. In addition to role playing, the HTT disseminates various contextual information and knowledge products pertaining to the population. For instance, IZ6 has prepared several cultural, historical, religious, and communications presentations, and disseminated them via electronic posting on the BCT's intranet portal (Schaner, 2008d).

Another important service IZ6 performs is identifying and filling specific BCT knowledge gaps of the population. For instance, IZ6 research helps reveal the perceptions and attitudes of local leaders and civilians. The HTT accomplishes this by performing social science research across OE Striker and by using techniques such as participant

observation and extended unstructured interviews. To aid in their research, team members also incorporate knowledge obtained from BCT documents, RRC research request responses, coalition documents, government documents, and open sources to contextualize and enhance their research (Schaner, 2008d).

As noted above, IZ6 works frequently with Civil Affairs (CA) teams located within each subordinate TF. They in fact share a close relationship that appears a natural and necessary fit because of the dispersed nature of the OE and the single point location of the HTT. IZ6 is co-located with 2BCT/1AD headquarters; the CA teams are embedded within each maneuver TF and therefore provide IZ6 with access and escort into the population. This enables IZ6 to establish its own connections and relationships within the population. However, due to limited means of transportation available to IZ6, and the dispersed nature of OE Striker, IZ6 can only periodically revisit members of the population spread across the OE. The CA teams provide a much more persistent presence within the population and therefore emerge as an important information and knowledge conduit for IZ6 and the BCT (Schaner, 2008d).

B. KNOWLEDGE FLOW ANALYSIS

This section contains the analytical results of three separate narrative accounts provided by IZ6 as they relate to the team's knowledge contribution in support of 2BCT's operations in OE Striker. The first narrative account centers on IZ6's contribution toward enhancing ePRT/BCT agricultural development initiatives within OE Striker. The second narrative account highlights IZ6's contribution toward revealing the sentiment that may not otherwise be obvious. The third narrative account describes how IZ6 conducts open source research to hedge predicted problems associated with Internally Displaced Persons (IDPs).

1. Narrative Account # 1: Agricultural Enhancement

Because the physical environment of OE Striker is conducive to and has a long history of agriculture and fish farming, developing plans to provide economic opportunity by way of these themes is a primary focus of the ePRT and 2BCT. Revitalization efforts

and projects for OE Striker are codified in the Joint Common Plan (JCP). The JCP lays out non-lethal priorities and objectives (such as reconstruction projects) within the OE. It is developed through joint a planning process between the ePRT and the BCT. In this first narrative account, IZ6 plays an instrumental role in identifying important revitalization opportunities within OE Striker by validating certain assumptions about the water supply, by learning how agriculture and fish farming used to work within the OE, and by learning how the people believe these industries can work again. Additionally, IZ6 helped identify local contractors to work on this agricultural revitalization effort (Schaner, 2008d).

These four pieces of knowledge (i.e., validated assumptions, how the industries used to work, how the people believe they can work again, and which contractors to hire) were created by IZ6 as the lead Social Scientist and a Human Terrain Analyst conducted observations and unstructured interviews with local citizens. To conduct his observations and interviews, the lead Social Scientist, accompanied by a CA team, spent time with various subordinate units in their areas of responsibility. During this time, the lead Social Scientist met with locals and discussed with them issues about agriculture and fish farming. In one instance, the lead Social Scientist interviewed a local fish farmer for about an hour. During this interview the local citizen revealed much about the water supply as it relates to agriculture and fish farming. The local citizen helped validate certain assumptions about whether the water supply could support either or both industries (Schaner, 2008d).

The local citizen also provided much information about how both industries used to work within the OE. He provided detailed information about what worked well, and what didn't, and he offered suggestions on how to get these industries back up and running. Additionally, the local fish farmer provided his assessment on what he believed the market could and could not withstand if the economy was revitalized on this basis of these industries. This kind of qualitative knowledge was prized by the ePRT/BCT upon its synthesis and reporting and was quickly utilized by the ePRT/BCT to develop plans for improving the water infrastructure within the OE (Schaner, 2008d).

a. *Visual Knowledge Flow Analysis*

Evaluating this narrative account from a knowledge flow perspective, we recognize that knowledge is clearly important in developing economic revitalization plans, and hiring local contractors to perform the work. Validating assumptions and developing knowledge of how a local economy used to work is important for determining what might work in the future. Moreover, knowing the local culture and tribal structure is important for hiring local contractors. Figure 4 graphically depicts how newly created knowledge moved and transformed in this instance and how it contributed toward implementing the ePRT/BCT's economic revitalization plan.
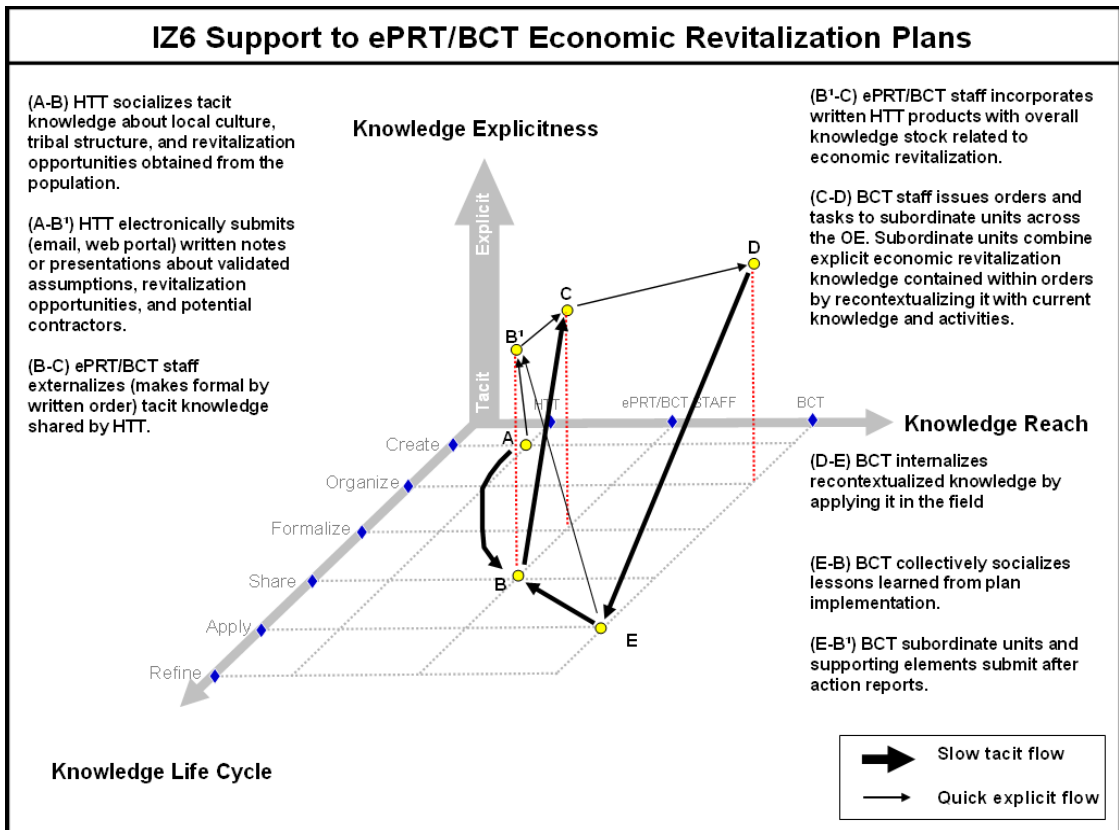

Figure 4.   Economic Revitalization Knowledge Flow Visualization Diagram.

Examining Figure 4 more closely, we see that point A represents the HTT as it obtains a tacit understanding of the environment (physical, social, and structural) with respect to economic revitalization opportunities and needs. Much knowledge is in

motion prior to arriving at point A that is worth mentioning but is outside the focus of this diagram. For instance, prior to engaging the population through observation and interviews, IZ6 obtained general contextual information from the RRC, BCT documents, and open sources with respect to OE Striker's physical, social, tribal composition. Moreover, IZ6 obtained contextual information about OE Striker's agricultural potential and pre-existing infrastructure. Combining this contextual information with general knowledge derived from years of social science experience, IZ6 engaged the population with a substantial initial knowledge base. Thus, additional observations and first hand accounts pulled from the population were quickly internalized and combined with contextual information to develop a sound and tacit understanding of the opportunities and requirements for economic revitalization. Thus, point A represents IZ6's tacit view of how economic revitalization should occur.

Communicating this knowledge to the BCT is the task of the HTT. Knowledge flow vectors (A to B) and (A to B[1]) represent the flow of knowledge across the reach dimension as it is shared with the ePRT/BCT staff. Knowledge flow vector (A to B) represents a socialization flow of tacit knowledge characterized by repeated informal and formal discussions, storytelling, and face to face interactions between IZ6 members and the ePRT/BCT staff members over time. The knowledge flowing along vector (A to B[1]) represents the direct reporting of field notes via written, electronic, or verbal means with the ePRT/BCT staff. Explicit knowledge moving along this vector includes such things as what projects should be undertaken and where they should take place.

Observing the knowledge flow vectors (B to C) and (B[1] to C), we see the ePRT/BCT staff make explicit its tacit understanding of economic revitalization opportunities and requirements (physical, cultural, and tribal), and incorporate specific recommendations provided by the HTT. These flows occurs within the reach dimension of ePRT/BCT staff, but moves to the formalize life cycle stage as plans are written.

Observing vector (C to D), we see the ePRT's agricultural revitalization plan manifest in orders and taskings which are disseminated to subordinate units for action. Because this flow occurs across the broader BCT organization, it is best depicted

at the BCT reach dimension and the organize dimension of the life cycle. Vector (C to D) is best described as a combination flow because subordinate units must recontextualize explicit knowledge of the local environment with new explicit knowledge contained within their orders to support the revitalization plan.

The (D to E) vector represents a BCT internalization flow associated with implementing assigned tasks within the cultural and social context. In this case, the BCT hired local contractors to dig wells in various locations around OE Striker. These wells were identified as crucial in revitalizing a supporting agricultural infrastructure. The (D to E) vector is represented by a thick (tacit) line because it involves the transformation of explicit knowledge into tacit knowledge. For instance, in this case, workflow processes (e.g., contract, supervise, and support the digging of wells) were initiated by written order. During the process, BCT workers applied their generic (explicit) knowledge of the contracting process, but now within a specific social, cultural, and linguistic context.

Finally, we return to knowledge flow vector (A to B), (A to B^1) and observe knowledge flow vectors (E to B) and (E to B^1). These vectors represent a feedback loop. Over time, as the HTT and BCT members engage local civilians, team and military members will provide feedback about the project's effectiveness. This knowledge is shared through informal and formal socialization (tacit knowledge flow vector (A to B) and (E to B)), and through written formal assessments and after action reports (explicit knowledge flow vectors (A to B^1), (E to B^1)). This completes the knowledge flow loop and defines it as an iterative learning-doing process that continuously improves performance and increases overall knowledge stocks across the organization over time.

b.   *IZ6 Contribution Toward ePRT/BCT Competitive Advantage*

This first narrative account yields two observations that indicate IZ6's contribution toward improving the BCT's competitive potential. First, IZ6 enables the BCT to bridge into the population by first helping to identify potential high-payoff revitalization opportunities, and then by helping to identify local civilians to hire. These activities increase the amount of interaction occurring between the BCT and the civilian

population. Moreover, this kind of interaction is positive because it creates infrastructure necessary for economic revitalization. Increasing social interaction and establishing or restoring essential services is identified in the Army and Marine Corps COIN manual as critical to winning the population's support (U.S. Army and Marine Counterinsurgency Field Manual, 2007, p. 169).

Second, the iterative process defined in Figure 4 demonstrates how knowledge accumulates over time. The feedback loop discussed in the figure provides new knowledge about the effectiveness of previous or ongoing projects to be incorporated into ePRT/BCT planning efforts. Knowledge flow vectors (A to B), (A to B^1) and (E to B) and (E to B^1) are in essence the avenue for lessons learned and thus represent the process for increasing the BCT's overall knowledge base over time. An accumulating knowledge stock over time improves organizational performance over time (Nissen, 2006, p. 81). This, in practice as well as theory, indicates a cumulatively improving competitive potential.

c. Potential Knowledge Flow Pathologies

The feedback loop defined in Figure 4 establishes lessons learned as a critical component toward growing the BCT's overall knowledge stock and improving its competitive potential over time. Thus, if no process exists at the BCT to refine plans according to feedback, then the feedback vectors in Figure 4 would be nullified. Therefore, a potential knowledge flow pathology could exist or emerge if the BCT does not emphasize obtaining feedback and applying lessons learned from reconstruction projects.

2. Narrative Account #2: Popular Perceptions of the People

The second narrative account provided by IZ6, illustrates how the team enhances the BCT's understanding of popular perceptions and behavior. Knowing how local tribal leaders and citizens perceive their environment and U.S. forces is crucially important to all facets of BCT operations that relate to the population (e.g., security, counterinsurgency, and reconstruction). In this second scenario, IZ6 greatly contributed

to enhancing awareness and insight into the truth about what a senior local Shia tribal Sheikh actually believed versus what he conveyed to his American associates. Given that this particular tribal Sheikh is a senior leader in his community, such beliefs most likely reflect the sentiment of his constituents (Schaner, 2008d).

This narrative describes the IZ6 lead Social Scientist participating in a municipality development conference in a subordinate OE. During one of the conference sessions a senior Shia tribal Sheikh started shouting and was subsequently escorted out by a senior Sunni tribal Sheikh. A translator explained to the IZ6 Team Leader that the tribal Sheikh was shouting about how things are never done right, never completed, and how things are never improved. However, the tribal Sheikh's comments in front of his peers directly contradicted what the Social Scientist heard the tribal Sheikh say to his American associates in a different forum (Schaner, 2008d).

An Iraqi conference participant revealed that the tribal Sheik's apparently contradictory behavior had root in a great amount of confusion that exists among Iraqis over what America is trying to accomplish in Iraq. The Iraqi conference participant elaborated on this reasoning by further explaining that most Iraqis do not understand how a nation like the United States could invade a country like Iraq, and then turn around and rebuild it. In the eyes of Iraqis and in Iraqi culture, these are two contradictory and confusing endeavors that generate mistrust and confusion, and sit at the root of the tribal Sheikh's contradictory behavior (Schaner, 2008d).

a. *Visual Knowledge Flow Analysis*

Evaluating this narrative account from a knowledge flow perspective, we recognize the importance of needing to know the real perceptions and attitudes of Iraqi leaders and citizens. Knowing this can significantly enhance the ability of American forces 2BCT to develop more effective engagement and development strategies, and thus enhance BCT performance. This narrative account represents a unique instance in which the HTT Team Leader observed a candid outburst of a prominent Shia tribal leader in a setting with no American military leaders present. Prior to this instance, much of the HTT's knowledge of local perceptions was based on observing meetings between Iraqi

leaders and BCT or TF leaders, or through interviews with local citizens and leaders. Figure 5 graphically depicts how new knowledge of popular perceptions move and transform to increase the BCT's awareness and improve operational effectiveness.
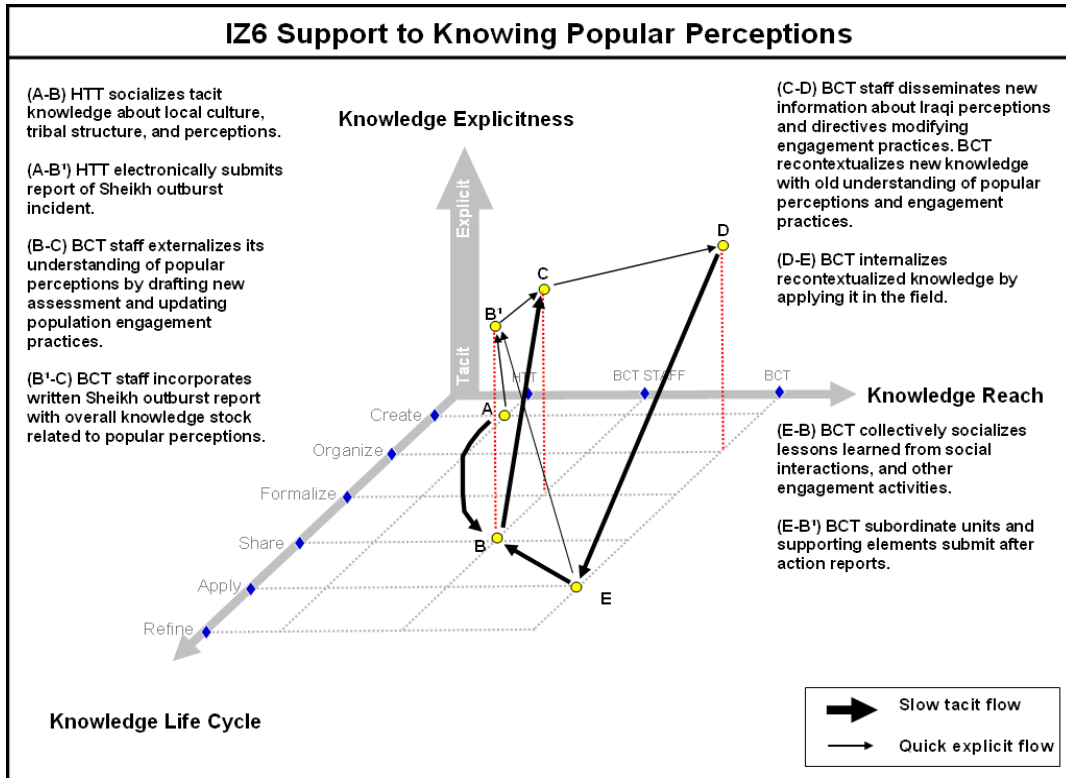
Figure 5.   Popular Perceptions Knowledge Flow Visualization Diagram.

Examining Figure 5 more closely, we see that point A represents the HTT as it updates its tacit understanding of local popular perceptions with new observations. This is an example of knowledge in motion prior to arriving at point A that is worth mentioning but is outside the focus of this diagram. For instance, prior to observing this incident with few Americans present, the HTT possessed an understanding of popular perceptions based on previously observed military-civil interactions within the OE. This incident was somewhat startling and indicated that perhaps Iraq-American relationships still needed improvement with respect this segment of society. This new and potentially revealing observation provided new insights that helped refine the HTT's tacit understanding of popular perceptions and behaviors – an understanding represented by point A.

Communicating this knowledge to the BCT is the task of the HTT. Knowledge flow vectors (A to B) and (A to B[1]) represent the flow of knowledge across the reach dimension as the HTT shares it with the BCT staff. Knowledge flow vector (A to B) represents the socialization of tacit knowledge through informal and formal discussions, story telling, and face to face interactions. The knowledge flowing along vector (A to B[1]) represents the one time reporting of this unusual incident through field notes and verbal communications with the BCT staff. Although we have made some assumptions to fill in missing details, the knowledge-flow diagram and following discussions are consistent with and representative of similar actions and observations.

Observing knowledge flow vectors (B to C) we see the BCT staff make explicit its understanding of popular perceptions as they relate to all BCT functions and interactions that involve the civilian population. Vector (B[1] to C) represents the incorporation of the HTT report of this incident with other BCT assessments of popular attitudes. Both of these flows occur within the reach dimension of BCT staff, but move to the *formalize* life cycle stage as new assessments are written to inform BCT member interaction with the population.

Observing vector (C to D) we see the new BCT assessment disseminated to subordinate units. Because this flow occurs across the broader BCT organization, it is best depicted at the BCT reach dimension and the *organize* dimension of the life cycle. Vector (C to D) is best described as a combination flow because subordinate units must recontextualize prior knowledge of the local population with new explicit knowledge contained within the BCT assessment.

The (D to E) vector represents a BCT internalization flow associated with its members performing all functions and interactions related to the population. For instance, TF leaders hosting local tribal leaders to meetings and meals may now generate and communicate more tailored questions and concerns with respect to meeting local needs. Additionally, better practices can be implemented that address the principal concerns and confusions claimed to be endemic within Iraqi citizens. This knowledge flow is likely to be slow and require some trial and error as BCT leaders and members struggle to understand and learn what the Iraqi people truly perceive.

Finally, we return to knowledge flow vectors (A to B) and (A to B¹) and observe knowledge flow vectors (E to B) and (E to B¹). These vectors represent a feedback loop. Over time, as the HTT and BCT members engage local civilians, team and military members will provide feedback about their interactions and the effectiveness of projects. This information is shared through informal and formal socialization (tacit knowledge flow vector (A to B) and (E to B)), and through written formal assessments and after action reports (explicit knowledge flow vectors (A to B¹), (E to B¹)). This completes the knowledge flow loop and defines it as an iterative learning-doing process that continuously improves performance and increases overall knowledge stocks across the organization over time.

b. *IZ6 Contribution Toward ePRT/BCT Competitive Advantage*

This second narrative account yields two observations that indicate IZ6's contribution toward improving the BCT's competitive potential. First, IZ6 enables the BCT to better bridge into the population by first identifying the true perceptions of local citizens and leaders. Having this kind of knowledge allows for an improved quality of interaction between the BCT and the civilian population. This in turn helps the BCT refine all functions it performs with respect to the population (e.g., security, counterinsurgency, and reconstruction). Improving social interaction and rapport with local leaders and civilians is crucial to establishing trust and eliminating misperception about America's intent and practices. Thus, knowing popular perceptions is vital to accomplishing America's objectives in Iraq.

Second, the iterative process defined in Figure 5 demonstrates how knowledge accumulates over time. The feedback loop discussed in the figure provides new knowledge about popular perceptions as they become revealed through social interactions. Knowledge flow vectors (A to B), (A to B¹), (E to B), and (E to B¹) are in essence the avenues for lessons learned and thus indicate a process for increasing the BCT's overall knowledge base over time. An accumulating knowledge stock over time improves organizational performance over time (Nissen, 2006, p. 81). This, in practice as well as theory, indicates a cumulatively improving competitive potential.

62

The feedback loop defined in Figure 5 enables the socialization and incorporation of new knowledge of the population as it becomes known. These are critical knowledge flow vectors that contribute toward growing the BCT's overall knowledge stock and improving its competitive potential over time. Thus, if no process exists at the BCT to refine civil-military interactions based on feedback and knowledge of popular perceptions, then the feedback vectors in Figure 5 would be nullified. Therefore, a potential knowledge flow pathology could exist or emerge if the BCT does not emphasize applying new knowledge of popular perceptions obtained either from the HTT or BCT members working in the field.

3. Internally Displaced Persons

The third narrative account provided by IZ6 takes on a slightly different focus. Where the first two accounts improve social interactions between Americans and Iraqis, this account demonstrates how HTT and BCT efforts may help improve social interactions between Iraqis when intra-societal disputes emerge as a problem. More specifically, this third account details how IZ6 used open source knowledge to develop an arbitration program designed to mitigate property disputes arising from Internally Displaced Persons (IDP). Property disputes are a common problem in Iraq that often lead to violence (Schaner, 2008d).

IZ6 developed the arbitration program with the idea that it should become integrated into the Iraqi court system. Part of 2BCT/1AD's responsibility for reconstruction is assisting the revitalization of an Iraqi court system and the rule of law. Thus, the BCT legal staff works directly with Iraqi officials to help develop a written legal code and infrastructure. At the time of this writing (September 2008), the HTT arbitration program is an approved BCT plan awaiting proposal to the Government of Iraq (GoI) in OE Striker (Schaner, 2008d).

All assistance provided to Iraqis in developing their judicial system requires a deep understanding and respect for traditional Islamic law, tribal law, tribal law in local practices, local culture, and traditions. IZ6 spent much effort researching traditional Islamic arbitration concepts from open sources to develop a plan that would be acceptable to the population and consistent within Islam and Iraqi traditional culture (Schaner, 2008d).

a. Visual Knowledge Flow Analysis

Evaluating this narrative account from a knowledge flow perspective, we recognize that explicit knowledge is clearly necessary for reestablishing the rule of law. In this case, we see research conducted on widely available resources (e.g., publications, books, articles) used to develop a detailed plan for resolving property disputes. Prior to addressing this potential problem, IZ6 members had little or no experience with Islamic arbitration. Therefore, this narrative demonstrates well how IZ6 leverages not only tacit knowledge, but also explicit knowledge to enhance important BCT initiatives. Figure 6 traces the knowledge flow path from HTT research to the projected point of proposal delivery to and implementation by the Government of Iraq (GoI).

IZ6 Support to Developing Iraqi Arbitration Plan

(A-B) HTT externalizes knowledge about Islamic arbitration and the local environment as written plan proposal and outline.

(B-C) HTT shares candidate plan with BCT legal staff via written products and meetings.

(C-D) BCT legal staff reviews and approves HTT arbitration plan.

(D-E) HTT and legal staff present and share arbitration plan with Government of Iraq (GoI) legal officials in OE Striker.

(E-F) GoI encodes arbitration plan into their legal code.

(F-G) GoI implements arbitration plan.

Knowledge Explicitness

Explicit

Tacit

Knowledge Reach

HTT   BCT Staff   GoI Legal Officials

Create
Organize
Formalize
Share
Apply
Refine

Knowledge Life Cycle
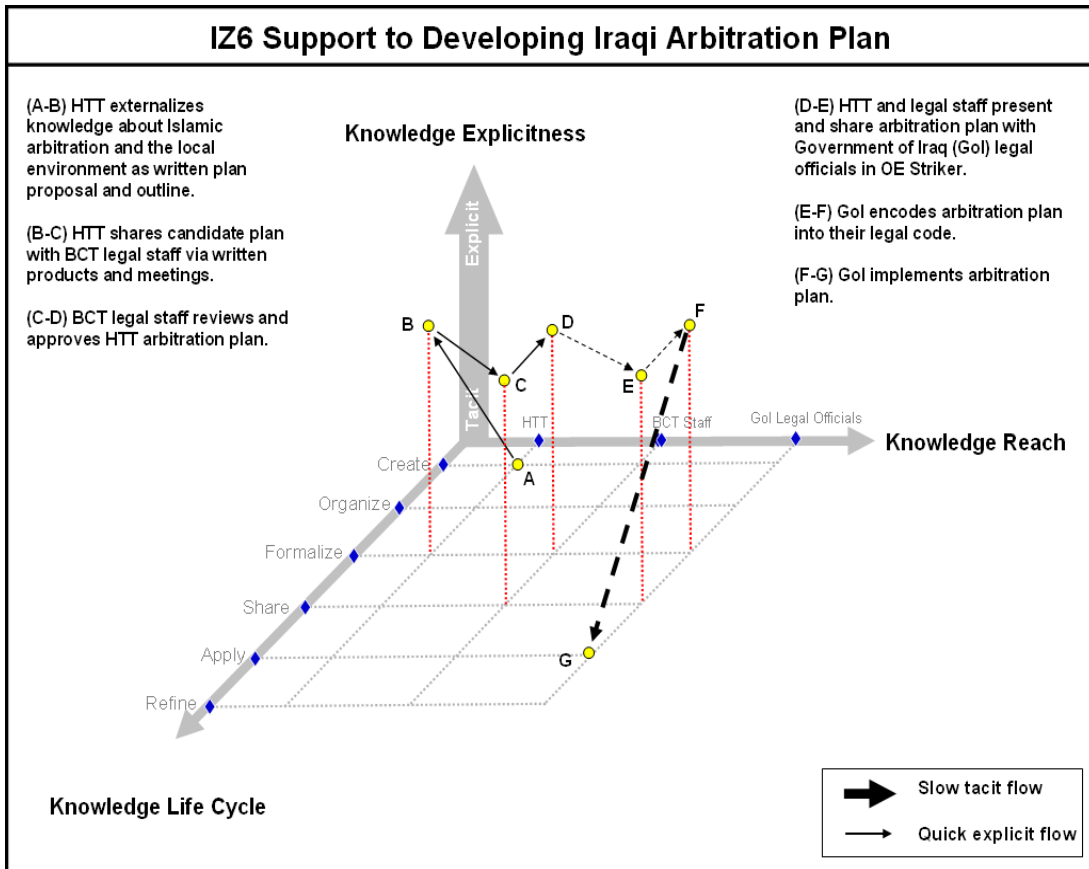
Slow tacit flow

Quick explicit flow

Figure 6.   IDP Knowledge Flow Visualization Diagram.

Examining Figure 6 more closely, we see that point A represents the HTT as it updates its tacit understanding of the local population by researching Islamic arbitration practices. Knowledge flow vector (A to B) represents an externalization flow as the HTT makes explicit its tacit understanding of what an arbitration program should look like within the context of OE Striker. This vector represents the development of a written product that outlines basic requirements for an arbitration plan. It is therefore best represented by flowing from the *create* to the *formalize* phase of the life cycle.

Knowledge flow vector (B to C) represents the delivery and verbal briefing of the point paper to the BCT legal staff. This flow traces a path from the HTT *formalize* phase across the reach dimension to BCT staff at the *share* life cycle phase. At this point, the BCT legal staff reviews the proposal and discusses it with the HTT. Knowledge flow vector (C to D) represents the adoption of the HTT arbitration plan. This

65

is best represented by moving back to the *formalize* phase of the life cycle but at the BCT staff level of the reach dimension. At the time of this writing (September 2008), this is as far as the arbitration plan has gotten. It is currently an approved BCT proposal awaiting submission to Government of Iraq (GoI) officials in OE Striker. It is anticipated that a meeting will occur between the BCT legal staff, IZ6, and GoI legal officials in the near future. Thus the remainder of this knowledge flow analysis is based on the expectation that this meeting will occur and will result in incorporating some if not all of the arbitration plan into official Iraqi legal code. To represent expected future knowledge flows, vectors beyond point D are indicated with dashed lines.

From point D, the plan is shared with the GoI during a meeting in which the proposal is briefed and discussed. Thus, knowledge flow vector (D to E) moves across the reach dimension to the GoI at the *share* dimension of the life cycle. From point E, the Government of Iraq incorporates the proposal into standing legal code to expand this body code to meet the need for arbitration. This action is represented by knowledge flow vector (E to F) moving along the explicit plane to the *formalize* phase of the life cycle. Finally, moving from point F to G we see the tacit application of this code by the Government of Iraq. Vector (F to G) moves to the *apply* phase of the life cycle in the tacit plane because arbitration requires adept application of the code in culturally complex and tense environments.

b. *IZ6 Contribution toward BCT Competitive Advantage*

This third narrative account yields two observations that indicate IZ6's contribution toward improving the BCT's competitive potential. First, IZ6 enables the BCT to bridge into the population by first contributing to the reestablishment of the rule of law. Developing the arbitration plan increase the amount of interaction occurring between BCT leaders, the HTT, and the civilian leaders. Moreover, this kind of interaction is positive because it helps create legal infrastructure necessary for maintaining peace and security. Increasing social interaction and establishing or restoring

essential services is identified in the Army and Marine Corps COIN manual as critical to winning the population's support (U.S. Army and Marine Counterinsurgency Field Manual, 2007, p. 169).

The second contribution IZ6 makes in this narrative account is the proposed arbitration plan itself. The plan contributes to the BCT's overall knowledge stock of the population by providing background knowledge of Islamic arbitration as it relates to the OE and IDPs. Additionally, the plan provides specific guidelines on how to deal with problems such as property disputes as they arise within the BCT's OE. While this information is expected to be encoded within local laws, BCT members must be aware of these guidelines because they must work with the GoI and IDF to help maintain security and mitigate violence. Thus, the arbitration plan informs BCT members how to interact with the local population, government authorities, and security forces under specific circumstances.

c.   *Potential Knowledge Flow Pathologies*

This scenario is characterized by IZ6 making an initial knowledge contribution by providing an arbitration plan for mitigating property disputes between Iraqi citizens. At the time of this writing (September 2008), the plan has been approved by the BCT staff and is awaiting proposal to the Government of Iraq. Should this product be adopted into the legal code, then it will have made a significant contribution. However, even if the plan is adopted, follow-up is required to ensure implementation is occurring when the need arises. Because 2BCT and the Government of Iraq work closely together on reconstruction efforts, and because 2BCT has a keen interest in minimizing civil violence, follow-up and follow-through is important. Laws are only good if they are enforced. Thus, potential knowledge flow pathology exists if the BCT does not follow up with the GoI after the plan is incorporated.

C.   KNOWLEDGE FLOW THEMES

This portion of the analysis draws three knowledge flow themes from the above narrative accounts and analysis. Taken together, the themes establish how IZ6 contributes to BCT competitive advantage and how it advances a population centric strategy. The three themes, identified as social bridging, growing the knowledge stock, and feedback and follow-up, are discussed in detail next.

1.   Theme #1: Social Bridging

Perhaps the most important theme that emerges from the analysis is social bridging. The knowledge contributions observed in each of the narrative accounts all result in increasing opportunity for BCT – Civilian, or BCT – GoI interactions. In the first scenario, IZ6's efforts enhanced the ability of the BCT to identify important reconstruction projects and to contract with local companies. Knowing what projects are important to the people requires knowing the people. The HTT in conjunction with CA teams immersed into the population to find out what Iraqis needed. With respect to contracting, IZ6 interviewed and observed local contractors to determine who the BCT should work with and hire. Both of these activities created opportunity for social interaction between the population and the BCT.

In the second narrative account, IZ6 observed apparent contradictory attitudes from a local senior tribal Sheikh. This observation resulted in learning some aspects of Iraqi perceptions that were previously unknown. Knowledge of Iraqi civilian perceptions is crucial to knowing how to interact with them. In this case, knowledge of the tribal Sheikh's true beliefs as expressed among his peers stands out as particularly useful to BCT staff and planners. In this scenario, the BCT leverages this new knowledge of popular perceptions to reshape its engagement practices with civilian leaders and the people. The result, is improved social interactions between Americans and Iraqis.

The third narrative account creates opportunity for improved social interactions by showing how the BCT can contribute to developing Iraqi legal code. By researching traditional Iraqi culture and Islamic arbitration practices, the BCT demonstrates to its Iraqi counterparts respect their culture. The proposal also generates opportunity for direct interaction and consultations between Iraqi legal professionals and American legal professionals. Figure 7 shows graphically how IZ6 knowledge products contribute to social bridging.
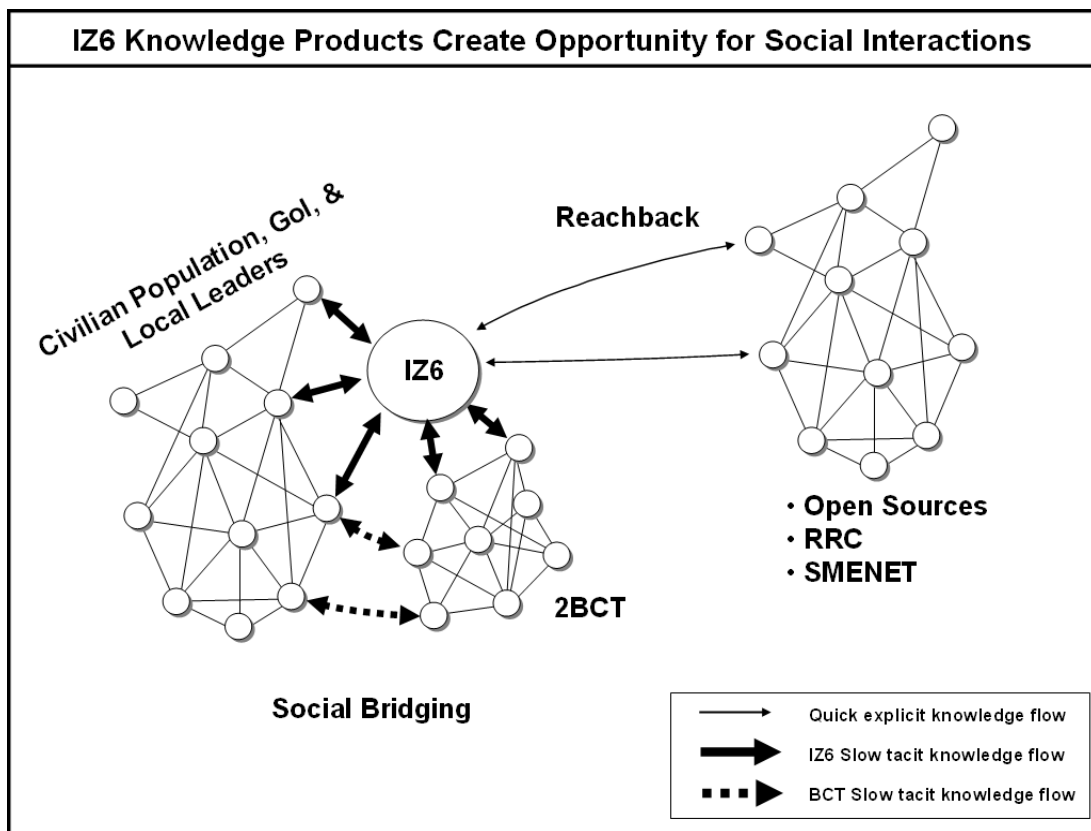

Figure 7.   HTT Social Bridging Diagram.

Examining Figure 7 more closely, we see IZ6 symbolically positioned between Iraqi civilians, government officials, local leaders, and 2BCT. The networked figures within the diagram indicate various groups interacting with each other. Nodes indicated by circles represent key points of each network where relationships are established and knowledge flows. The left cluster represents the Iraqi civilian and governmental network

that exists within OE Striker. The center cluster represents 2BCT, and the right side cluster represents IZ6's resource network located outside of OE Striker (e.g., open sources, the RRC, or the Subject Matter Expert Network).

The black arrows indicate knowledge flows. Thick solid arrows indicate slower tacit knowledge flows cultivated through the development of relationships between the HTT and the BCT, and the HTT and Iraqis. Note that no thick solid arrows connect the BCT and Iraqis. Instead, thick dashed arrows connect the BCT and Iraqis. This is designed to show that these relationships are established after the HTT enables them. Because of rotational policies, new BCT's arrive approximately once per year. Upon arrival, a BCT has no established contacts with the civilian population. All BCT relations with civilians are principally established by first going through the HTT who maintain relationships during transitional periods. The BCT-Population arrows are dashed to indicate that they are broken when the BCT rotates. Thin arrows indicate speedy explicit knowledge transfers such as the attainment of contextual reports from the RRC back in the United States.

Figure 7 can be applied to any of the above narratives to visualize the social bridging process. For instance, in the first narrative the BCT leveraged open sources to obtain a basic contextual understanding of the OE's ability to support agriculture. This is represented by the thin arrows stretching across from the right side network to the IZ6 node. Then, the HTT immersed into the population to observe and interview them about developing agriculture in the area. Multiple iterations of interviews and observations established relationships between the team and local civilians. These relationships enabled knowledge to flow and build a tacit understanding of revitalization requirements. This is represented by the thick arrows connecting IZ6 and the population. Finally, the BCT begins to work with local civilian contractors to dig wells in support of infrastructure development. These social interactions occur in multiple places, with frequency, and are indicated by the dashed arrows connecting the BCT with the population.

The basic sequence demonstrated above can be applied to many instances of HTT support to BCT operations. The idea of leveraging information resources to establish a baseline of knowledge about a requirement, followed by more in depth social science research within the population, followed by increased interaction between the BCT and the civilian population establishes a pattern of HTT knowledge contributions that enhances social bridging.

2.   Theme #2: Growing the Knowledge Stock

The second important theme observed from the above analysis is growing the BCT knowledge stock over time. In all three narrative accounts we observe IZ6's contribution to the BCT's knowledge stock. Recognizing the problem of maintaining knowledge stocks and relationships during periods of BCT rotation, IZ6 is deployed in a manner consistent with HTS rotational policy designed to provide continuity. IZ6 will remain in place when 2BCT is scheduled to rotate. This rotational policy greatly enhances the ability of the incoming BCT to establish civilian relationships more quickly, and leverage a persistent knowledge stock. Figure 8 graphically depicts the effect the HTT has on mitigating knowledge and relationship loss during crucial turnover periods.

BCT Knowledge Stocks with Persistent HTT Presence

Human Terrain Team

BCT Turnover

Incoming BCT

BCT Turnover

Knowledge of Human Terrain
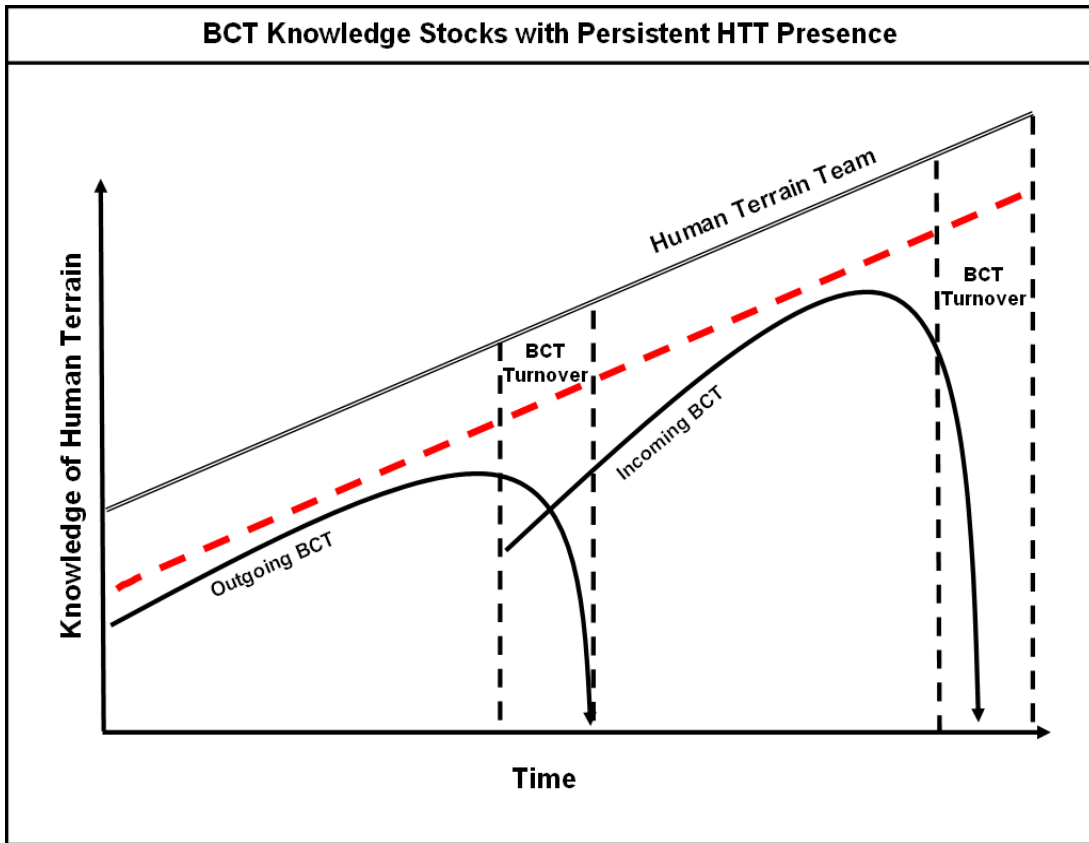
Outgoing BCT

Time

Figure 8.   Growing Persistent Knowledge Stocks.

Observing the Figure 8 more closely, we see Knowledge of the Human Terrain on the vertical axis and Time on horizontal axis. The curved solid lines represent the level of knowledge possessed by the current outgoing and future incoming BCTs. The straight line indicates the level of knowledge possessed by the HTT over time. The dashed line indicates the cumulative level of knowledge possessed by BCTs over time. The HTT solid line is purposely positioned at a higher level of knowledge than the BCTs because the HTT is comprised of people especially trained to focus on and research the population. Moreover, they spend all of their time focusing on the population and finding ways the BCT can compel their support. Thus, the HTT is always likely to maintain a higher level of knowledge of the population than the BCT.

Note that because of the HTT's persistent presence, the incoming BCT arrives with a higher knowledge stock starting position than the previous BCT. This higher knowledge stock position is possible because the HTT remains in place, accumulates

knowledge over time, and makes its explicit product available to the incoming BCT prior to its arrival. Moreover, as the BCT arrives, it quickly assimilates the existent HTT into it structure to facilitate internal knowledge flows.

Starting at the highest possible knowledge stock position is important because of the dynamic effect of knowledge and performance as asserted by Knowledge Flow Theory (Nissen, 2006, p. 80). Figure 9 illustrates this phenomenon by showing how the rate of improved performance increases with growing knowledge stocks. This figure and concept within Knowledge Flow Theory explains and illustrates how an HTT improves a BCT's competitive potential over time.
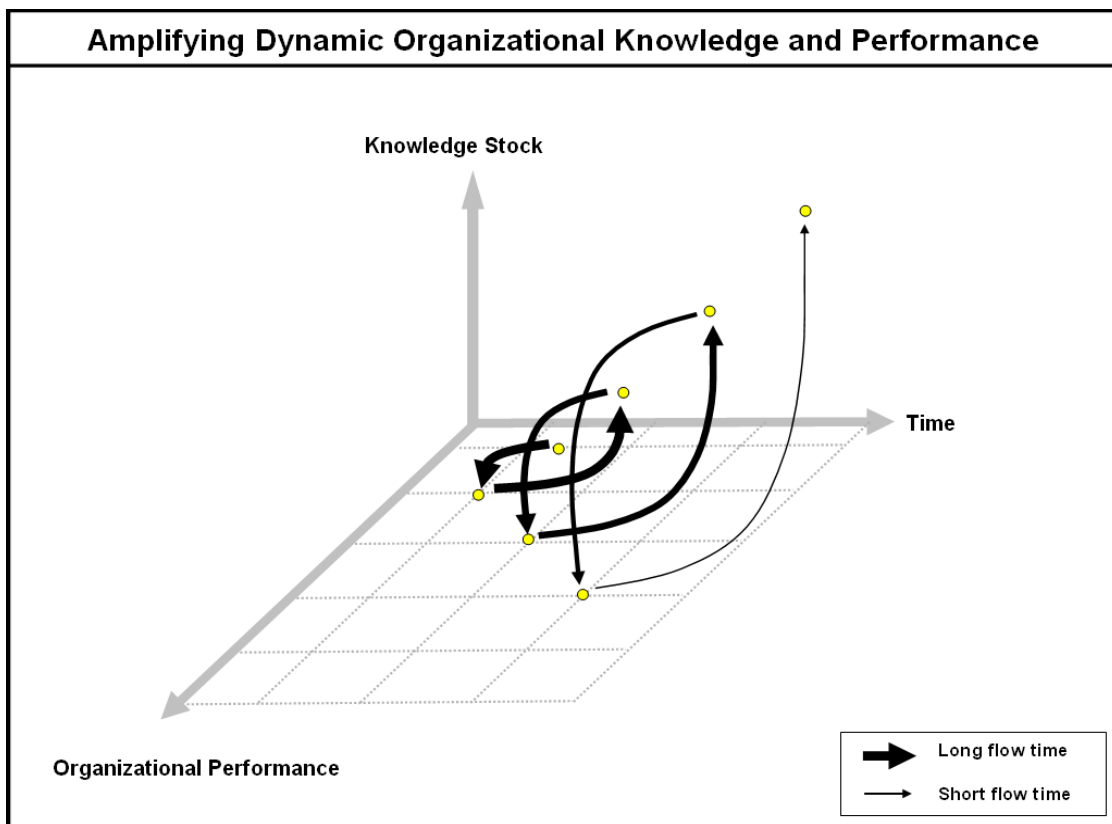

Figure 9.   Improving Performance by Growing Knowledge Stocks.

Examining Figure 9 more closely, we see that a pattern exists such that as knowledge stocks increase across an organization, so does the organization's performance. Moreover, the rate of performance improvement increases as knowledge stocks increase. Knowledge Flow Theory asserts that knowledge stocks, flow time, and

performance are all related in such a way that as an organization acquires more knowledge, the faster it can learn and acquire new knowledge (Nissen, 2006, p. 81). Moreover, the theory asserts that knowledge enables action (Nissen, 2006). Putting these two concepts together gives rise to the above figure such that over time an organization's performance will improve at an increasing rate with increasing knowledge stocks. The linchpin in the context of BCTs performing various functions in Iraq is knowledge and relationships loss during turnover. The HTT concept is designed precisely to mitigate this problem with its rotation policy.

3. Theme #3: Feedback and Follow-Up

The third and final important theme observed from the analysis is the importance of feedback and follow-up. A common potential pathology identified in all three narratives is closing the feedback loop. This is essential to organizational learning, growing the knowledge stock, and improving performance over time. The pathology of no feedback or follow-up could result from changing priorities associated with new units as they arrive. For instance, if 2BCT places a premium on developing a culturally acceptable and codified arbitration program, its replacement BCT may not. This situation would present a very inconsistent picture to Iraqi citizens and leaders and would inhibit the cumulative growth of a persistent knowledge stock.

Therefore, the HTT appears to be in a unique position of responsibility. Not only must the HTT facilitate the forging of new relationships between BCT members and the population each time a new BCT arrives, but it must also ensure operational continuity between BCTs in order to guarantee knowledge continuity, growth, and persistence. This is essential to ensuring that feedback is obtained and incorporated into organizational learning processes designed to enhance performance.

D. SUMMARY OF RESEARCH RESULTS

This chapter applies the analytical method described in Chapter III to examine the focal HTT (IZ6) holistically. More specifically, the research applies Knowledge Flow Theory to reveal how the focal organization creates, shares, and harnesses knowledge of

the population to enhance the competitive potential of the host Brigade. The analysis is repeated three times to examine IZ6 in three different scenarios. Narratives provided by IZ6 serve as the basis for constructing knowledge flow diagrams and the setting for analysis.

The research reveals several themes useful for deriving conclusions and recommendations. First, the research identifies improved social bridging as a principal contribution made by IZ6. Increasing the opportunity for U.S. and Iraqi interaction is vital to increasing cooperation and eliminating sources of mistrust. Moreover, social interaction provides opportunity for growing BCT and Iraqi knowledge stocks of eachother. This leads to the second emergent theme – growing the knowledge stock – as another vital IZ6 contribution. The research shows how growing the knowledge stock improves the BCT's competitive potential. Finally, the research identifies feedback and follow-up as a third important theme and related theme. Without this, social interactions break down and valuable knowledge is lost unnecessarily. The final chapter discusses these themes as they lead to conclusions and recommendations.

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V. CONCLUSIONS AND RECOMMENDATIONS

Chapter V provides conclusions and recommendations based on the analytical results of Chapter IV and contextual information contained within the thesis. The themes drawn in Chapter IV are considered here to infer answers to the research questions identified in Chapter I and to provide additional insights. This chapter begins with conclusive remarks of how the embedded HTT improves civil-military social interactions and grows persistent knowledge stocks of the population. Next, conclusive remarks are drawn pertaining to potential knowledge flow pathologies as they relate specifically to Chapter IV results and generally to opposition movements described in Chapter II. Finally, the chapter provides specific recommendations that may be used to inform future HTS design and implementation.

A. CONCLUSIONS

The themes drawn from the analysis demonstrate that the embedded Human Terrain Team (HTT) concept is valid and necessary in the context of counterinsurgency (COIN) and nation building. The research indicates that embedded HTTs, such as IZ6, enhance the competitive potential of the supported unit (e.g., Brigade Combat Team (BCT)) by creating, sharing, and harnessing knowledge of the population. Moreover, embedded HTTs by their very nature and purpose compel the supported unit to pursue more effectively a population-centric strategy. Both of these achievements (creating competitive advantage, and advancing a population-centric strategy) are made possible by embedded HTTs as they enable improved social interactions between U.S. military personnel and local civilians, and as they grow persistent knowledge stocks of the population. However, these achievements are potentially ephemeral if feedback about unit initiatives is not solicited from the population, if changing mission requirements inhibit feedback or follow-through of current or prior unit initiatives, or if opposition movements to the HTS project limit the required pool of high quality candidate participants.

1.   HTTs Improve BCT Competitive Potential

The analysis shows that embedded HTTs grow BCT knowledge stocks of the population. As the HTT fulfills research requirements in support of non-kinetic unit mission objectives, the resultant knowledge is shared with and leveraged by the BCT. Knowledge Flow Theory asserts that growing organizational knowledge stocks over time increases organizational performance (Nissen, 2006, p. 80). Not only do embedded HTTs fill BCT knowledge gaps of the human terrain, but their staggered rotational policy also ensures knowledge continuity during periods of unit turnover. This is a unique policy characteristic that directly enhances knowledge accumulation and institutional memory.

Moreover, the embedded Human Terrain Team concept causes team members to establish personal contacts and relationships with local citizens and leaders. This creates an environment that emphasizes the accumulation of population-centric tacit knowledge over time. Knowledge Flow Theory asserts that tacit knowledge is a kind of unique experiential knowledge that is slow to develop but is particularly powerful (Nissen, 2006). Its power is derived from an uneven distribution and its situated local context. Such knowledge accumulates individually or organizationally through social interactions and relationships. The more social interactions occur between HTT members or U.S. military personnel and the local population, the more likely it is that tacit knowledge will accumulate – thus raising the BCT's competitive potential.

Furthermore, tacit knowledge is strongly linked to knowing the population by understanding its perceptions, culture, and beliefs. Institution Theory and McCormick's theory of insurgency and counterinsurgency highlight the importance of knowing the population's perceptions and beliefs because these are what most strongly influence behavior and attitudes. Thus, by focusing its research on the population, the embedded HTT is uniquely positioned to grow tacit knowledge of the population that helps the BCT better understand the root of the population's behavior. This is the most crucial kind of knowledge a counterinsurgent can have if it hopes to compel popular support.

2.   HTTs Advance a Population-Centric Strategy

The second conclusion is related to the first such that it relates to improved social interactions. In the first conclusion we assert that social interactions improve the accumulation of tacit knowledge of the population. In the second conclusion we assert that increasing knowledge stocks and improving social interactions between U.S. personnel (HTT or BCT) and local civilians advances a population-centric strategy. This occurs as HTTs arm the BCT with knowledge of the population and provide it with opportunity to interact with the population. Thus, the embedded HTT concept enables the BCT to more effectively pursue the population and compel its support.

Such a focus equates to McCormick's first strategy of counterinsurgency. Recall the Mystic Diamond Model in Chapter II as it describes the proper sequence of strategies that ought to be pursued by a counterinsurgent. The U.S. Army and Marine Corps manual on counterinsurgency asserts that "…military forces that successfully defeat insurgencies are usually those able to overcome their institutional inclination to wage conventional war against insurgents. They learn how to practice COIN and apply that knowledge" (U.S. Army and Marine Corps Counterinsurgency Field Manual, 2007, p. lii). This quote highlights well exactly the niche the embedded HTT concept fills. By providing the BCT with knowledge of the population, it compels the BCT to focus on it, and thus provides opportunity not to wage conventional war against insurgents. Thus, the HTT advances a population-centric strategy.

3.   Feedback and Follow-Through are Essential

The third conclusion is related to the first two such that it identifies feedback and follow-through as essential enablers to growing the knowledge stock and improving social interactions. This conclusion does not imply that feedback and follow-through is not occurring, but rather serves a cautionary point for future consideration. To grow BCT knowledge stocks and refine BCT performance the research shows that feedback from the population provides a crucial knowledge input. Moreover, actively seeking feedback from local citizens and leaders about BCT initiatives delivers a signal of sincerity and can

help erase misperceptions. Thus, soliciting feedback is directly tied to Institution Theory and McCormick's theory of insurgency and counterinsurgency by linking feedback knowledge to understanding popular perceptions, attitudes, and behavior.

Moreover, follow-through on BCT non-kinetic initiatives is equally essential. Whether follow-through comes from a single unit on a short duration project or a series of units over a long term project, it is essential to shaping positive perceptions of the people. Additionally, follow-through increases the opportunity for positive and persistent social interactions between military or HTT members and the civilian population. Thus, it too facilitates the growth of BCT knowledge stocks, improves social interactions, and advances a population-centric strategy.

4. Opposition to HTS May Limit Long-Term Efficacy

Chapter II introduces two sources of opposition to the HTS project. The first form of opposition comes from the social sciences community. Organizations like the Network of Concerned Anthropologists (NCA) are strongly opposed to the notion of anthropologists supporting counterinsurgency operations. Additionally, more benign opposition exists from government planners, military thinkers, and analysts. Much of this opposition stems from a belief that available resources could be better used and that new projects like the HTS are largely unnecessary or insufficient.

These two forms of opposition could inhibit the long term efficacy of the HTS project. As the project grows, as demand for HTS products and services increase, and as the concept is expanded to work in accessible areas prior to conflict, the need for having a reliable source pool of highly trained social scientists will expand. Given the level of opposition from the anthropological community, it may be necessary in the future to develop an alternative source pool of candidate participants.

B. RECOMMENDATIONS

The final section of this thesis provides specific actions that could be taken to mitigate the potential pathologies identified in conclusions 3 and 4. The foremost and potentially most enduring problem that should be addressed is the active opposition

exhibited by the professional anthropological community. The second most important potential pathology that could emerge and should be addressed to prevent its emergence is ensuring feedback and follow-through with civilians and projects in the host nation. The remainder of this section provides specific recommendations for addressing the above potential pathologies.

1.   Create Professional Military Social Scientists

Developing professional military social scientists with the requisite skills necessary to perform the roles identified throughout the HTS organization may be necessary to ensure an adequate future pool of high quality candidate participants. This recommendation suggests the designation of a new military professional who is educated and trained to become an expert in a pre-designated area of interest (e.g., a specific country, region, or tribe), and who becomes an expert in social science research; the focus language, history, and culture; counterinsurgency; nation building; peace and security operations; and strategy and policy.

Institutions like the Naval Postgraduate School (NPS) and the Defense Language Institute (DLI) are perfectly situated to develop a professional military social scientist because they already provide much of the kind education required above. Moreover, the programs at these schools could be quickly adapted to provide any additional educational requirements identified if such a professional degree program were designed.

Developing a sufficient pool of professional military social scientists will reduce the demand for recruiting civilian social scientists from professional academic circles. Moreover, developing a professional military social scientist comes with the added benefit that he or she is already steeped in the military culture, knows its capabilities, and understands how its resources can be used in the conflict prevention and COIN contexts. Furthermore, drawing from a large pool of military professional social scientists may reduce opposition from the anthropological community provided this hypothetical professional is not credentialed and labeled as a professional anthropologist.

2. Integrate a Knowledge Management Program into the HTS Framework

The HTS organization and way of operation implicitly adopts many of the concepts found within Knowledge Flow Theory. For instance, the HTS places a premium on creating and sharing relevant cultural knowledge and enabling social interactions between U.S. personnel and local civilians. Implied within these actions is recognition of the value of knowledge and of social bonds as knowledge flow enablers. Additionally, HTT rotational policies are designed specifically to mitigate significant knowledge loss during periods of turnover. This implies recognition that accumulating knowledge stocks improve performance over time.

The reality is that the HTS is a knowledge based organization designed to create, share, manage, and harness knowledge for the express purpose of enhancing competitive potential and improving supported unit performance in challenging and complex environments. Thus, it may be appropriate for the HTS to integrate further and make explicit within its framework more concepts related to Knowledge Flow Theory. Explicitly integrating concepts from Knowledge Flow Theory into the HTS framework can ensure certain knowledge flow related pathologies never emerge – such as a lack of feedback and follow-through with local civilians. Under the current framework, such a pathology could emerge. While the likelihood of its emergence in part depends upon the character and priorities of the BCT, another cause could simply be not having a knowledge management mechanism and policy in place.

The HTS could benefit from future research that focuses on developing a knowledge management mechanism and policy. Students at the Naval Postgraduate School could offer such research.

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