Integrating Open Source Intelligence into the Brigade Combat Team at Combat Training Centers

Connor Binney, David Medina, John Silvers, Nicholas Steinhaus, and Patrick DuBois

Department of Systems Engineering
United States Military Academy,
West Point, NY 10966, USA

Corresponding Author: connor.binney@westpoint.edu

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Abstract: Open source intelligence (OSINT) is a rapidly expanding intelligence discipline in the Intelligence Community (IC), both in scope and impact to national security. US Army organizations conduct pre-deployment training and validation at combat training centers (CTC) across the full spectrum of warfare. Military intelligence professionals are tested on their ability to collect and analyze data using each of the intelligence disciplines. However, OSINT is the only intelligence discipline that is not currently graded at CTCs. Although there are various reasons why OSINT is not being sufficiently evaluated, this project focuses on the lack of defined OSINT evaluation criteria and endeavors to develop defined task, conditions, standards, and evaluation criteria for the planning and execution of OSINT operations. This project is sponsored by the Army OSINT Office (AOO) who is the proponent and capability developer for Army OSINT.

Keywords: Open Source Intelligence (OSINT), Combat Training Centers (CTCs), Army OSINT Office (AOO), Lean Startup (LS)

1. Introduction

The increasing use of the internet and emergence of social media has transformed how information is shared, providing the U.S. military and its adversaries a new source of intelligence. This change in information revealed the U.S. Army's need for open source intelligence (OSINT) analysts who can exploit publicly available information (PAI) to supply combatant commanders with intelligence for decision making. While the U.S. Army developed robust evaluation criteria for most military occupational specialties (MOS), the Army does not have a MOS for OSINT and lacks a standardized evaluation criterion for the execution of OSINT. Given evaluation criteria, the military intelligence community will be able to better train and assess OSINT skills and tasks to prepare for success in the operational environment.

2. Background

Army Techniques Publication (ATP) 2-22.9: Open Source Intelligence, defines open source as "any person or group that provides information without the expectation of privacy-the information, the relationship, or both is not protected against public disclosure. Open-source information can be publicly available, but not all publicly available information is open source. Open sources refer to publicly available information medium and are not limited to physical persons" (2012). The intelligence community uses information from multiple disciplines to provide commanders with information vital to their mission. OSINT is collected information derived from PAI, which is cross-examined with other intelligence disciplines to confirm or deny intelligence accuracy. Congress mandated the Director of National Intelligence to incorporate OSINT into all elements of the intelligence community. Intelligence Reform and Terrorism Prevention Act of 2004, SEC 1052, Open-Source Intelligence states "open-source intelligence is a valuable source that must be integrated into the intelligence cycle" (2004).

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2.1 Challenges

For every intelligence MOS, there exists a Military Intelligence Training Strategy (MITS) document that is intended as a guide for training, assessing, and certifying performance across the intelligence process requirements (TC 2-19.401, 2019). The lack of an OSINT MOS means that commanders must add OSINT duties to an analyst of another specialty as an additional responsibility. The lack of MITS guidance and requirements causes OSINT tasks to fall to the bottom of most priority lists. A current senior intelligence advisor recently informed the team that finding time to train OSINT is not feasible. Without dedicated analysts (with an OSINT MOS) and a MITS requiring OSINT training, their additional requirements overwhelm their ability to train OSINT (Wright, 2020). Those same ideas were echoed by an executive officer of a military intelligence company (MICO) when informing the team that there was no Soldier trained to conduct OSINT in the company. When assigned the OSINT mission during CTC rotation, the unit assigns an analyst who "monitors those sources and treats it as regular analyst work" (Coulter, 2020). Until a MITS for OSINT is developed, these shortcomings are likely to continue.

2.2 Supported Organization

This project supports the Army Open Source Intelligence Office (AOO) in the Army's Intelligence and Security Command (INSCOM). Overseen by the Army Deputy Chief of Staff, G2, AOO is the Army proponent for OSINT. AOO's primary tasks include training and "providing capabilities that facilitate on-demand, near real-time intelligence collection and analysis for unit commanders and theater decision-makers" (Army OSINT Office, 2020). This requires AOO to maintain close relationships with the Defense Intelligence Agency (DIA), the special operations community, and the intelligence community. AOO acts as a mediator for all Army OSINT operations, funding and developing training of personnel, and provisioning OSINT tools for use (Hoff, 2019).

2.3 Combat Training Centers

The Army's solution to creating mission ready units is the Combat Training Center (CTC) program. Brigade Combat Teams (BCTs) certify mission readiness by spending a rotation at one of the training centers before going on deployment (AR 350-50, 2018). BCTs, comprised of roughly 3,500 Soldiers, are the Army's basic deployable unit containing all support requirements needed to deploy and fight independently. Army Regulation 350-50 Combat Training Center Program describes the CTC's mission as "providing realistic joint and combined arms training, according to Army and joint doctrine, approximating actual combat" (2018). The Army has two CTCs in the Continental United States where units spend a month-long rotation certifying unit tasks. One of the challenges that CTCs currently have is introducing the effects of the internet and modern digital communication changes on the battlefield.

2.4 OSINT Challenges at CTC

One of AOO's goals is to effectively integrate OSINT into the Combat Training Centers. CTCs already facilitate OSINT during rotations, but the OSINT mission is superseded by other intelligence priorities. AOO currently faces several challenges. First is replicating realistic publicly available information (PAI) in the CTC environment. The CTCs currently provide a simulated internet where groups simulating the training post potential leads and information, but the simulation pales in comparison to the volume of the real internet. Additionally, CTCs operate on a closed network, preventing rotating units from accessing the cloud based AOO provisioned OSINT tools. Furthermore, the soldiers tasked to conduct OSINT lack training and a dedicated OSINT mission. Army Intelligence leadership generally assigns OSINT tasks to an all-source analyst as an additional duty. Preferably, the unit would have an organic OSINT cell comprised of trained and dedicated OSINT analysts, but that rarely occurs (ATP 2-22.9, 2012).

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3. Purpose

One of the biggest problems with trying to replicate conducting OSINT in a CTC is the lack of training and certification guidance for conducting OSINT. Stemming from the lack of a specific MOS or MITS, there exists no task, condition, standards documents for which to evaluate OSINT. To better integrate OSINT into training at CTCs, develop a method to train, assess, and certify a rotational unit's ability to execute OSINT. To guide their research, the team set out to answer the following questions:

- Who will be conducting OSINT, and who will be grading it? Will it be in a BCT?
- There are multiple types of collection for OSINT. What types of PAI will BCTs have access to?
- How do you grade the execution of military intelligence tasks?

4. Methodology

The capstone team used a combination of Design Thinking and Lean Startup methodology to run the project, understand the client's needs, and to develop a product that meets those needs. Lean Startup is a hypothesis-driven approach to product design that helps guide project teams to take action in quickly developing prototypes, or minimal viable products (MVP), that can be tested to inform the team to what degree they are satisfying the customer requirements (Ries, 2011). Additionally, this methodology reduces risk and failure through identifying the activities that provide value and the ones that do not. The Lean Startup methodology is used through experimentation and following several key principles, which include validated learning, iterating in the build-measure-learn loop, and innovation accounting. The build-measure-learn feedback loop, slightly modified to fit our project, is shown in Figure 1 and depicts the iterative process used: empathize with stakeholders, define the problem, ideate radical solutions, build a prototype, receive feedback on its value, and learn how to improve the prototype (Toivonen, 2015). Feedback loops exist throughout the process to drive rapid adjustments to learning and the execution of new testing. Using this hybrid methodology enabled this team to more efficiently develop a product that satisfies the customer's requirements.

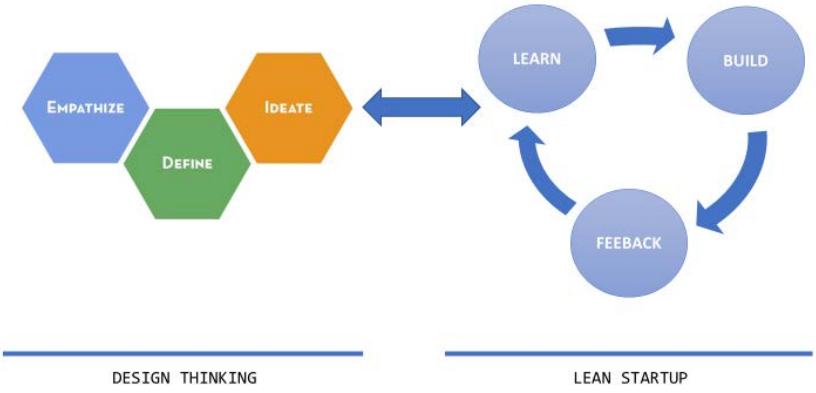

Figure 1. Methodology for AOO CAPSTONE

5. Product Design

First, the team empathized with AOO to understand the challenges they faced. After focusing the project's scope, the team conducted research and developed ideas to solve the problem. Next, the team used the Build-Measure-Learn loop as a guide in developing a prototype. Lo-Fi prototypes are exceptionally valuable in identifying design flaws and understanding user preferences before making a significant investment in the product (Jimenez et al, 2015). In parallel, the team performed more research and conducted interviews with stakeholders that provided meaningful insights on how to best deliver a valuable solution. These insights helped the team build MVPs, which were reviewed and tested by Military Intelligence (MI) professionals across USMA and operational units as well as the AOO Staff. The first MVP this team developed included a meta map, which helped the team to better understand the relationships between OSINT concepts, the Army organization, and AOO's problem. Stakeholder feedback from the meta map provided an opportunity for the team to

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learn how to better align the prototype with mission essential tasks and Combined Arms Training Strategy (CATS), which sparked new ideas. AOO reviewed the prototype and offered feedback, resulting in a major pivot towards a product that aligns with OSINT activities. The team then developed new evaluation criteria more specific to OSINT activities and the considerations appropriate with evaluating OSINT and analysts. This interactive, collaborative, and iterative engagement with the stakeholders allowed the team to create a unique and valuable product for the supported organization (AOO), the future users of the product (BCT analysts and leaders), and laid the groundwork for abstraction and use across the US Intelligence Community. Every meeting with stakeholders produced critical feedback used to drive learning, generate new ideas, execute testing, and ultimately produce a valuable product.

6. Product

To meet AOO's need, the team developed an OSINT task structure that highlighted key performance tasks and evaluation criteria to facilitate OSINT at a CTC. These products accompany each other in establishing a framework for assessing OSINT in a BCT. The team assumed the BCTs have certified OSINT analysts with access to PAI and the means to collect it.

6.1 Task Structure

The team created a task structure, or a modified functional hierarchy, to identify the key performance tasks that need to be completed to conduct OSINT in a CTC. Systems Engineers use functional hierarchies to decompose a system into its essential functions. In alignment with a functional hierarchy, the team's task structure defines the essential functions that must be executed to complete OSINT operations at the brigade level. The team's original task structure was shared with AOO and evaluated by their OSINT trainers for accuracy and relevancy. After discussion, the team agreed on five functions displayed in Figure 2. These five functions are decomposed into tasks which support the execution of the primary function. Figure 3 provides a representative example, displaying Task 1.0 and its associated subtasks for Function 1.0: Establish Initial Direction.

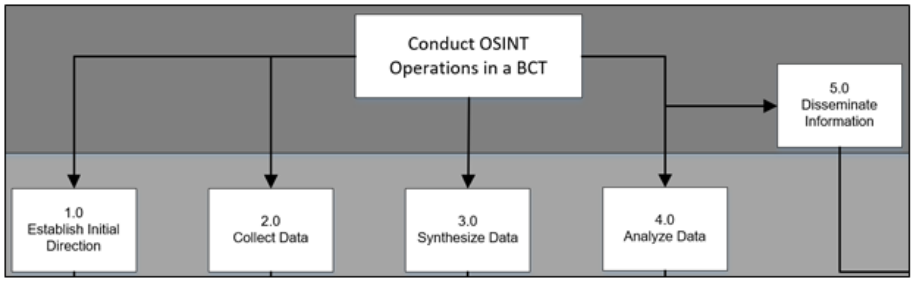

Figure 2. Task Structure (Five Essential Functions)

A unique attribute of this task structure that differs from traditional hierarchies is how the functions and tasks are divided vertically by level of task, which can be seen in Figure 3. The level of task (collective, team, and individual) identifies who will conduct the task. ATP 2-22.9 defines the level of task performed by an OSINT Cell (2012). Individual analysts should be capable of performing the individual tasks, while OSINT cells perform team tasks, and battalions and above perform collective tasks. This enabled the team to adjust the granularity of the evaluation criteria based on the level of task.

Each function has its own tasks that nest with the fundamental objective of conduct OSINT in BCTs. For the most part, these tasks do not have to be performed in a sequential order. Tasks 2.0, 3.0, and 4.0 are an iterative process that should be performed until intelligence is sufficiently gathered. This task structure provides a framework for the evaluation documents that detail the evaluation criteria for each task.

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6.2 Evaluation Criteria

From the functional hierarchy, the team created evaluation documents for grading purposes at the CTCs. This prototype format is derived from the Military Intelligence Training Strategy (MITS). The evaluation documents mirror MITS formatting to provide familiarity and standardization across MI training documents. This will assist in the potential future development of OSINT MITS as well as use of MI leadership in designing and assessing OSINT training.

Each task has a distinctive evaluation criteria document that contains the level of task it is in, which is specified as the section. An example of the product is shown on Figure 4. The document also includes the function it is nested under, conditions, standards, and performance steps for evaluation. These documents are intended for use by MI leaders in developing OSINT training and ultimately as evaluation criteria at a CTC.

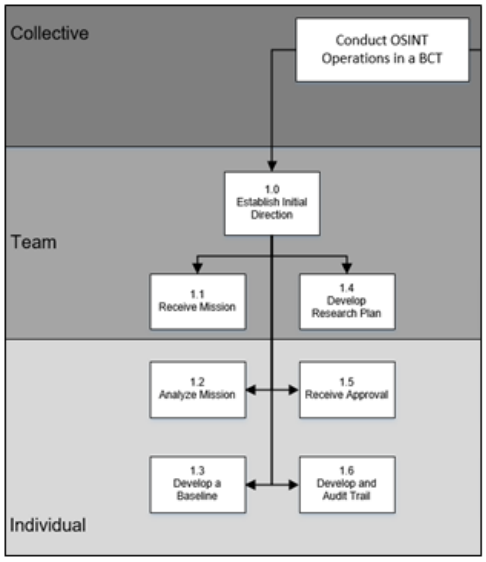

Figure 3. Task Structure (Function 1.0 with Subtasks)

TASK 2: Analyze Mission

Section: Requirements Manager [Individual Task]

Function: Establish Initial Direction

References/Doctrine: ATP 2-22.9 and Unit SOP

Conditions: You are the OSINT section's Requirements Manager given a mission statement, OSINT authorities, a simulated combat environment and a laptop with internet connection.

Standards: Appropriately determines commander's intent and expands the produced mission statement. Must consider assumptions and identify what success will look like. Uses best practices for Open Source Intelligence research.

Performance Steps	*GO*	*NO-GO*
Determine intent: What do we need to accomplish with this mission?		
Expand mission statement: Develop mission statement that addresses who it concerns, what the task they will perform, when they will conduct the mission, where they will conduct the mission and give the purpose of the mission.		
Produce assumptions: List all assumptions and justifications for those assumptions that affect the plan.		
Determine success parameters: Produce an end state for the mission that defines mission success.		

Figure 4. Evaluation Criteria (Task 1.2)

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7. Feedback

The capstone team sent the evaluation criteria to 10th Mountain's military intelligence companies (MICO), the Army OSINT Office (AOO), and military intelligence professionals across West Point to gather feedback tailored to improving the product. The team wanted to determine if the task, conditions, standards included in the evaluation criteria were feasible, relevant, and important. The team asked the MICO if the content was useful, if there are performance steps missing, and if there are any additional elements required for the product. Due to time constraints and mission demands, the team is still waiting to receive MICO's feedback, but the team received feedback from a previous MICO company commander and AOO.

A former MICO Commander teaching at West Point provided the team feedback on the task structure and advice on how to write future documents. He stated that the task structure was straightforward, and the subtasks were procedural, meaning the tasks were easy to assess. He warned that including more tasks will burden Soldiers who will find ways to expedite the process. Finally, he advised the team that the evaluation criterion needs to include tasks that if not completed, the mission will fail, and to reference existing doctrine to reuse tasks used in other MI disciplines (Jinks, 2020).

The team responded to the feedback by reviewing the evaluation criteria's task, conditions, and standards. The team referenced previous tasks and mirrored their standards but edited the conditions to fit the OSINT mission. AOO received the edited documents and reviewed every task to ensure the evaluation criteria was aligned with their OSINT training. AOO placed highlights on specific tasks and revised performance steps which the team used as a guide to further refine the documents. Overall, AOO was pleased with the team's work and looks forward to continued collaboration in the future.

8. Future Works

The team completed the task, conditions and standards documents modeled after Military Intelligence Training Strategy documents. The team structured these documents for the Army's Training and Doctrine Command's use in writing doctrine that Military Intelligence leaders can use to guide their training on OSINT tasks. The team intends to send these documents to the Military Intelligence Center of Excellence at Fort Huachuca for them to review and publishing as a MITS following additional feedback from operational units. To move the project further, it may be helpful to work with leadership at Fort Huachuca on producing official doctrine to set conditions for the Army to conduct OSINT.

Future projects could also focus on the additional OSINT challenges at CTCs. Namely, develop a method for rotational training units to access the AOO provisioned OSINT tools and increase the volume of simulated publicly available information for training on the closed network. Addressing these challenges will significantly increase the training value of OSINT at CTCs and the impact OSINT analysts will have in securing the nation. All OSINT tasks my not be trained or evaluated at the CTCs, but there still may be methods to train and certify OSINT tasks outside of the CTCs.

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