Guide to Open Source Intelligence

A Growing Window into the World

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Open Source Intelligence (OSINT) utilizes information that is openly available to all. The world overflows with information – facts and figures, writing and descriptions, pictures, videos and audio recordings. Some of it is secured (or "classified"). Most is not but is disorganized and thereby hard to find. OSINT collection attempts to find nuggets of information, which can then be collated, synthesized, and analyzed. What does the latest Chinese stealth fighter plane look like? This was discovered through OSINT. What did Ayman al-Zawahiri, Osama Bin Laden's deputy say about Al-Qaida's intentions? Again, this is learned through OSINT.

Properly used, OSINT becomes the foundation upon which the other types of Intelligence (HUMINT, IMINT, SIGINT, and MASINT) rest.[1] OSINT complements traditional methods of gathering Intelligence providing context and confirmation.

OSINT is ancient, used since before biblical times. In revolutionary America George Washington[2] kept abreast of British troop strengths and movements through spies that among other things gathered newspapers, publically available information and pamphlets. During the Gettysburg Campaign in 1863 General Lee's Intelligence officers monitored northern troop movements through the accounts of Northern newspapers.[3] During the Philippine War

(1899-1902), U.S. military planners had to rely on intelligence reports that were little more than copied encyclopedia articles.[4] During both world wars books and newspapers were examined for valuable information by Military Intelligence. In their dash across France, General Patton's troops used Michelin maps collected from petrol stations. Publically available maps are good examples of OSINT, still used today for geospatial understanding.

In the wake of the Second World War, the government realized that a more formalized process was necessary to gather information, including that which was publically available. Thus, when the Central Intelligence Agency (CIA) was founded in 1947, it assumed primary responsibility for OSINT as well as HUMINT collection. Huge amounts of publically available information were gathered by CIA's Foreign Broadcast Information Service and Foreign Document Division. During the Cold War, the Office of Strategic Research gained information about foreign nuclear capabilities from public statements by foreign officials and published reports by scientists (focused particularly on the USSR and China but also on other countries like France).[5] During this same period the Office of Economic Research exploited public information concerning OPEC oil production, Soviet grain production, and the strength of foreign currencies and foreign company acquisitions.[6] Developments in the Soviet space program were also monitored by CIA and United States Air Force via technical literature.[7]

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1. A quick description of the various INTs, including OSINT is available at: *https://www.cia.gov/library/publications/additional-publications/the-work-of-a-nation/work-of-the-cia.html.*

2. George Washington is considered by historians to have been "America's First Military Intelligence Director." For further information see: *https://www.cia.gov/news-information/featured-story-archive/2007-featured-story-archive/george-washington.html.*

3. A fascinating account of intelligence-related problems experienced by both the North and South during the Gettys-

burg Campaign is provided by *The Gettysburg Campaign – A Study in Command* by Edwin B. Coddington, Charles Scribner's Sons, 1968. The author points out that utilization of Northern newspapers by Southern Commanders caused problems due to the sometimes unreliable information [deliberately or inadvertently] provided (pg. 19). Vetting and validation of OSINT reliability continues to be a challenge to this day.

4. Encyclopedia articles are but one early example of OSINT. Military planners were severely hampered by the lack of intelligence throughout the Philippine War. Detailed accounts of the problems can be found in *The Philippine War: 1899-1902,* by Brian McAllister Linn (University Press of Kansas, 2000).

5. See: *The U.S. Intelligence Community* by Stafford T. Thomas (University Press of America, 1983) for a contemporary review of the Cold War intelligence apparatus, which included in its priorities the collection of technical documents and foreign publications by the Office of Strategic Research (pg 58-60).

6. A review of OSINT collection and utilization history during the Cold War era can be found in Jeffrey T. Richelson's interesting volumes, *The U.S. Intelligence Community,* Fourth Edition, (Chapter 12) (Westview Press, 1999) and *The Wizards of Langley – Inside the CIA's Directorate of Science and Technology* (Westview Press, 2002) .

7. One of the best reviews of OSINT history and current use is Stephen C. Mercado's article, *Sailing the Sea of OSINT in the Information Age,* available at *https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/vol48no3/*

The need for more complete information on more subjects was identified by the 9-11 Commission. Part of the 2004 reorganization of the Intelligence Community included the establishment of an Open Source Center at CIA.[8] A similar capability exists at the Defense Intelligence Agency (DIA),[9] where military-relevant OSINT is produced for decision makers in the Department of Defense.

With the myriad of today's technical collection capabilities reasonable questions to ask are, "Why OSINT?" and "Why now?" The answer is quite straight-forward, as OSINT's characteristics include the speed with which it can be collected; the available quantity, quality and clarity of information; its ease of use; and the comparative low cost of its collection.[10] Information is expanding exponentially. Much of it is on the Worldwide Web. Without efficient means for retrieval and organization, much of it would remain undiscovered. Search strategies and software are being developed by the Intelligence Community to make open source information discovery easier and its organization more efficient.

OSINT is challenging because of its volume and because each piece of information must be verified or "vetted," often in unique ways. Vetting is important for any Intelligence process. If a newspaper or cable news source reports that an individual said something, how does the OSINT analyst know that the reported statement is accurate? The newspaper may be controlled by a repressive government or aligned with a political party. Deception techniques are common. Our adversaries know we are watching and listening and often try to fool us with spurious information, which can spread quickly throughout the Internet. In the case of OSINT analysis, multiple independent sources providing the same or confirmatory reports are a requirement for validating the information. This is a never ending process as new information is continually collected.

One of the most important tools for the OSINT analyst is large commercial search engines, such as Google or Yahoo, to name but two. Search engines increase access efficiencies through indexing and search algorithms that can process rapidly millions of pages of data and documents. Search engines can be very specific, focusing on specific countries or domains, published books, or specialized scientific literature. An experienced OSINT analyst knows where the best information is likely to be found. Large scale or limited searches can be made using specific strategies so that only the most relevant information is extracted. Then the "analytic process" begins.

In the analysis process the analyst identifies "findings" (i.e., facts that he knows and can verify) and gaps (things he knows he does not know). For example, with the Zawahiri statement, the analyst can locate the video and confirm the information as accurate. While he knows some characteristics of the new Chinese stealth fighter from the photograph, gaps in knowledge remain of the technical specifications and aerodynamic capabilities. Both findings and gaps are used to determine requirements for additional collection, perhaps through other INTs. In the case of the stealth fighter, a requirement might be to obtain specific information about the aircraft's wings, which could in turn provide indications about its aerodynamic capabilities. These requirements might be fulfilled through OSINT, or overhead IMINT, or SIGINT, or HUMINT.

OSINT is often used in conjunction with other INTS. Information from multiple sources and means are synthesized by all-source analysts, who take the sum of the different types of information to construct a comprehensive answer to the requirement and in a timely and accurate manner. The process is repetitive, since with each new finding and gap new questions arise.

Good OSINT analysts are problem solvers who possess specific technical knowledge, such as specialized language skills, cultural, and/or scientific expertise as well as cognitive skills.[11] OSINT analysts who monitor native language websites and blogs and

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article05.html.

8. Additional information on the Open Source Center can be found at *https://www.cia.gov/news-information/press-releases-statements/press-release-archive-2005/pr11082005.html and https://www.cia.gov/library/publications/additional-publications/the-work-of-a-nation/cia-director-and-principles/centers-in-the-cia.html.*

9. A brief introduction to the purposes and practices of Military Intelligence, including the use of OSINT is available at *http://www.dia.mil/history/.*

10. A detailed discussion of OSINT utility is provided by Stephen C. Mercado's article, *Reexamining the Distinction Between Open Information and Secrets,* available at *https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/csi-studies/studies/Vol49no2/reexamining_the_distinction_3.htm.*

11. An excellent and detailed summary of the cognitive aspects of intelligence analysis, applicable to OSINT, is provided in *Thinking and Writing – Cognitive Science and Intelligence Analysis,* by Robert S. Sinclair, available on-line at *https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/thinking-and-writing.html.* Some of the pitfalls encountered in the cognitive process ae found in the classic text, *Psychology of Intelligence Analysis* by Richards J. Heuer, Jr., also on-line at *https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books=and-monographs/psychology-of-intelligence-analysis/index.html.*

have language and dialect fluency, particularly related to problem regions of the world are highly desirable.[12] Requirements for specialized OSINT skills are likely to increase in the future, as the web continues its expansion and the quantity of information continues its explosion.

Though not a panacea for all intelligence problems, OSINT is a very powerful tool, which can provide a needed understanding of the world around us and of potential threats that we face.

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12. The wars in Afghanistan and Iraq have verified the importance of language and cultural knowledge. Intelligence Analyst position applicants possessing detailed knowledge of regional language, dialects and slang are highly sought out in current recruiting programs. Subject Matter Experts in many technical areas like chemistry, physics and engineering are also considered high priority by many Intelligence Community Agencies. Specific recruiting priorities for the Intelligence Community are available at *http://www.usajobs.opm.gov/*.

Readings For Instructors

The following are recommended readings for instructors on Open Source Intelligence

- *The Missing Dimension of Intelligence*, Arnaud De Borchgrave, Thomas Sanderson, and John Macgaffin, Center for Strategic and International Studies, 2006.

- Students wishing to know more about the emerging subspecialty of OSINT called "sociocultural Intelligence" should read the excellent volume, *Sociocultural Intelligence – A New Discipline in Intelligence Studies*, by Kerry Patton, Continuum International Publishing Group, 2010.

  Recommended introductory texts (which include discussions on OSINT) are:

- *An Introduction to Intelligence Research and Analysis*, Jerome Clauser, The Scarecrow Press, Inc., 2008.

- *Intelligence Analysis: How to Think in Complex Environments*, Wayne Michael Hall and Gary Citrenbaum, 2009. ✐

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