Social media OSINT brings pitfalls for analysts

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Social media platforms can be force multipliers for OSINT analysts but will also contain factually or analytically incorrect material. *Tony Roper* examines the challenges that this poses for analysts seeking to use social media in their work

Key Points

- The expansion of sources and tools for producing open-source intelligence has outpaced the spread of the technical expertise and analytical methodologies required to produce high-quality analysis.
- Psychological factors relevant to social media users can weigh against good analysis, including the echo chamber effect, the desire to break news, and the suppression of competing views.
- The wide range of sources available on social media platforms risks exacerbating information overload, and analysts may discard social media feeds with known errors because of the time required to verify individual posts.

The production of open-source intelligence (OSINT) requires the collection and analysis of open-source information. Social media provides a valuable source of information in a range of fields, from breaking news on global events to data from more technical sources. In addition, a range of user types publish finished OSINT analysis on social media, which can in turn be an input for other OSINT collection processes. However, these analyses are of variable quality, and seemingly well-produced content can be inaccurate.

Some freely available OSINT analyses are well-sourced and methodologically sound. The turnaround time for producing such analysis will often be less than for traditional media or large organisations, and the ease of crowdsourcing information online can be positive for analysis. Groups and individuals with deep or 'grey area' expertise may disseminate analysis through these channels, providing a valuable input, and social media can therefore be a free source of analysis that may be sufficient for some purposes.

However, the collection of inaccurate information or analysis risks corrupting OSINT analysis, and potentially all-source analysis (where classified intelligence is included in government assessment processes). In an intelligence process, doubts about one aspect of a source's information inevitably cast doubt on all of the source's information. This trend is arguably exacerbated on social media, where the desire to be the first to post, and to compete for the attention of other users, may outweigh good analysis.

Information overload

The rise of social media, the easy availability of satellite imagery, and the proliferation of maritime and aircraft-tracking websites have dramatically lowered the entry bar for producing open-source analysis. Although there are examples of high-quality OSINT analysis being posted on social media platforms, this low bar of entry and the superficial similarity between a well-informed analysis and less well-produced material makes it increasingly time-consuming to identify the useful inputs, exacerbating the challenge of information overload. Similarly, an increasing number of sources of information offers more opportunities for corroboration, but increases the cognitive burden on analysts responsible for verifying information and assessing the credibility of sources.

A Russian Il-78 tanker (left) prepares to refuel a Tu-95MS bomber flying over skyscrapers of the Moscow International Business Centre during a rehearsal for the Victory Day military parade in Moscow on 7 May 2019. Flight tracking data for refuelling tankers is often readily available online, but interpreting that data to analyse the movements of military aircraft is not always straightforward. (Vasily Maximov/AFP/Getty Images)

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For example, social media user feeds that monitor military flights often post about every aircraft that they track rather than focusing on more interesting material. One social media user identified by *Jane's* regularly posted around 50 times per 12-hour period on US military

aircraft movements. Another user regularly produced a similar number of posts on the movements of commercial ships that may be involved in the transport of military equipment. Following just these two users would lead to an analyst receiving hundreds of potentially relevant posts per day, and in practice an analyst would follow many more users than two.

Flight Radar 24 (FR24) is an online aircraft tracker that uses automatic dependent surveillance–broadcast (ADS–B) data to provide worldwide coverage of aircraft movements. This data is often provided by aviation enthusiasts that have their own receiving station in return for improved access to the FR24 service. Moreover, sites such as FR24 augment the service with official data, such as that derived from surface movement radar at airports in the US.

Users of the platform and data providers can set up alerts for certain broadcasts, such as an aircraft's emergency transponder code. These alerts can be used to automatically generate social media posts. Monitoring these feeds can provide an analyst or a news organisation with regular, timely updates on any potentially developing incidents involving commercial aircraft.

Beyond aircraft tracking there are automated feeds that track a wide range of sources. For example, some feeds automatically create a post when changes are made to Wikipedia articles by government IP addresses or when seismic events above a certain magnitude are recorded by the United States Geological Service. These automated feeds can be of value to analysts seeking to maintain situational awareness of a wide range of indicators.

However, the automated nature of these feeds means that they can be misleading. In the example of the aircraft emergency transponder, a code may have been selected accidentally or the emergency might not be an airframe catastrophic incident, but rather a lesser event such as a sick passenger. *Jane's* is aware of cases in which aircrew have elected not to select an emergency transponder code because of the attention that it now generates.

Methodological factors

Other online aircraft trackers such as ADS–B Exchange are full networks that enable all, or most, military traffic to be shown. Although FR24 shows military traffic, in general it only uses position information provided by the aircraft itself. However, further data can be obtained using multi-lateralisation (M-Lat) data from raw radar information and triangulating this to identify the position of the military flight.

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