An Evolving Information Environment: How an Engaging Audience Can Spread Narrative and Shape Perception. A Trident Juncture 2018 Case Study

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The Information Environment - As preparations for Trident Juncture 2018 were in full swing on land, in the air and on sea, another domain became of increased importance: the information environment (IE). Whether the intent is to manipulate narratives or insert new narratives, the Actors add content to the information environment at an overwhelming rate. They are not necessarily individuals, but can also be a group, such as a corporation, a news outlet, a government organization, or bots and cyborgs. Actors use a wide variety of platforms to spread their content. These platforms are not limited to the most actively used global social media players Facebook, YouTube, WhatsApp, Instagram and Twitter, but also include niche user-content generated outlets, i.e. the Russian networking site VKontake and Reddit, as well as online news media and blog sites. While news media and blog sites are used to provide an audience with detailed information, a teaser in the form of a catchy, attention- grabbing headline is spread throughout social media featuring a link to the website to create a broad audience. This tactic is used by news media and fake media outlets alike, as they share the common goal of reaching the widest audience possible.

Content is a busy overwhelming environment that has crossed over from one platform to another; it is diluted and blended to form the stories that are told on social platforms. Interpreting that data is an ever-evolving process. Twitter has become the "gold standard" for many data scientists to mine and explore digital messaging. Information maneuvers on Twitter have rapidly evolved. Content engagement through the use of tags and hashtags supports pushing content easily; simultaneously, software development has followed suit. Platforms such as YouTube with their preponderance of videos is new to data scientists. The content of videos is not easily analyzed with software and can easily be manipulated. High views on videos are resulting in revenue for click farms (view-selling sites) and misleading public opinion on the actual information. For example, the view counter on YouTube videos shows the amount of views a video has. The more views and the longer retention rate a video has, the higher the engagement. Higher engagement scores push a particular story up in results during a normal "google search" due to inherent biases of search engine optimization algorithms.

As expected, information confrontation was notable in several areas of the information environment during TRJE18, ranging from alleged GPS electromagnetic interference (EMI) to social media manipulation. NATO digital natives posted on multiple social media outlets, while the digital immigrants watched with curiosity. Disinformation was corrected by official NATO channels on select social media platforms, such as Twitter, but adversaries encroached on one global platform: YouTube.

NATO Spokesperson Oana Lungescu replying to tweet published by the Embassy of the Russian Federation in London - https://twitter.com/NATOpress/status/1059017631615893505

Information Actors on YouTube - YouTube is the largest storytelling platform that incorporates videos from across the globe allowing for freedom of expression, freedom of information, freedom of opportunity and freedom to belong according to YouTube[1]. With YouTube being a key player in the overall online realm of social communications, it is also the most relevant video sharing platform globally. Each day more than one billion users watch over a billion hours of content[2]. The top countries for YouTube usage are the United States, India, and Russia[3].

In order to access the Trident Juncture 2018 IE, content was divided into three groups: (1) Owned communication: NATO official accounts and channels from NATO delegations, (2) Earned communication: What everyone is saying, and how audiences are reacting, and (3) Hostile communication: The activities and communications of anti-NATO information actors. The Collaboratorium for Social Media and Online Behavioral Studies (COSMOS) based out of the University of Arkansas at Little Rock (USA) collected YouTube data with the

[1] YouTube. About YouTube - YouTube. https://www.youtube.com/yt/about/

[2] YouTube. YouTube for Press. https://www.youtube.com/yt/about/press/

[3] Alexa. https://www.alexa.com/siteinfo/youtube.com

Download IE Summary

help of the YouTube API and subject matter experts to evaluate how NATO's communications efforts through official channels performed compared to adversarial actors.

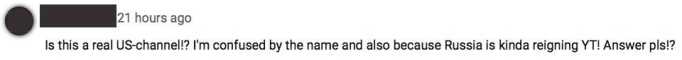
Comparing NATO-owned, earned, and hostile content related to TRJE18, we found that hostile content outperformed NATO-owned and earned content. Hostile videos received higher user engagement (likes, comments, etc.) on average than NATO-owned or earned videos. While NATO-owned and earned videos had entirely organic engagement, hostile videos exhibited strong indications of inorganic or robotic activities.

- NATO-owned videos had mostly positive comments, whereas, comments on hostile videos had exceptionally high negative sentiment towards TRJE18, NATO, and the U.S.

- While most videos were posted on channels located in the U.S., videos posted on channels from Russia were largely hostile. Channels from Ukraine posted earned (pro-NATO) videos.

Seven percent of all Trident Juncture 2018-related videos were published by NATO, its operational headquarters and participating militaries. The majority, however, consisted of coverage provided by news outlets, military enthusiasts, locals and hostile actors. Channels targeting the military enthusiast community used footage from Digital Video Information Distribution System (DVIDS) for their videos. The use of catchy, attention-grabbing titles such as "This is How U.S. Marines Will Take the Fight to Russia in the Arctic" sparked the curiosity of the audience. Many viewers engaged with the content by liking, disliking, sharing and commenting. In order to achieve high engagement, little effort and expense were required.

Information Actors and Their Tactics – The goal of many channels publishing Trident Juncture 2018 content was to earn money from advertisements. The use of ***deception*** and ***smoke screening*** tactics was frequently observed. Numerous channels used the words "News", "Military" and "Defense." This in combination with channel verification caused confusion amongst viewers.


[redacted] 21 hours ago
Is this a real US-channel!? I'm confused by the name and also because Russia is kinda reigning YT! Answer pls!?

YouTube user commenting on video published by *US Military Target*.

Throughout TRJE18, ***exaggeration*** and ***hyperbole*** were evident. Videos focused on the friction with Russia, undermining NATO's reputation and credibility, and questioning its capabilities while painting a picture for the public that World War III was near.

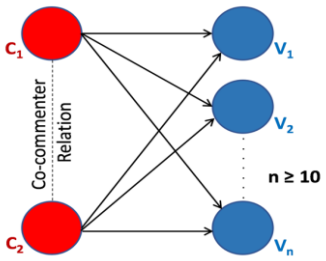
Distraction tactics were also used. The world was informed that the U.S. Marines caused a beer shortage in Iceland. Hostile actors also spread ***disinformation***. The Norwegian frigate collision was the topic of many videos. Within hours of the incident, the video "Spoofing Attack - Vlad Putin jamming the GPS of NATO ships, HNoMS Helge Ingstad (F313)" published by Servitutt was uploaded. Even though the video did not gain much friction initially, the story idea did. Hostile information actors also used this event to deploy their tactic of ***defamation***.

The Narratives - The combined efforts of RT (Russia Today), Sputnik and Ruptly in Russian, English, Arabic, French, and German reported on the exercise and local protests. The target audiences in Russia and beyond were told that NATO was an aggressor and that Russia's technology was superior, as demonstrated with the Tupolev 160 flights and the missile launch. The technology demonstrations shifted the attention away from the exercise and offered anti- NATO information actors the opportunity to refocus on Russian activities while undermining NATO's reputation. Orchestrated events in the shape of talk shows, similar to authentic and neutral TV shows, were produced with the intent of influencing viewers. We observed several talk shows in English, Russian, and German using video footage from RT and other Russian information actors to create friction, and potentially, a divide of the public, within NATO Nations. Others use hate speech and ridicule to question NATO's capabilities.

Influencing public perception – While hostile content was uploaded quickly, NATO's own content was added much slower, and with less attention-grabbing headlines resulting in low viewership and engagement.

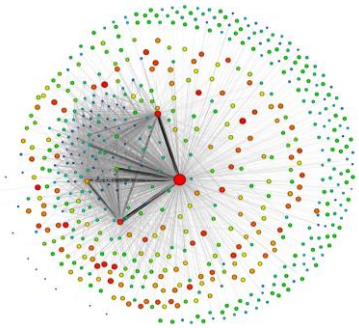
Hostile videos gained the attention of viewers. Hostile videos received higher user engagement (likes, comments, etc.) on average than NATO-owned or earned videos. The comments often mirrored the anti-NATO content published by the channels. A commenter may want to ***amplify or distort the narrative***, create a toxic/trolling environment for other viewers, or ***exploit YouTube's recommendation algorithms*** by ***flashflooding*** /**flashmobbing** the comment space – a behavior that misleads YouTube's algorithms in believing that the video is viraling resulting in rank elevation. Channels are also able to proactively boost their ranking. Many hostile channels interacted with their viewers by asking open-ended questions, replying to comments, and liking viewers' comments which pushed up the ranking.

Comment Analysis – In order to analyze the complex comments section of YouTube, a simple algorithmic model was used to identify the relationships of commenters. For the purpose of this study, commenters and co-commenters would have to comment on the same videos at least ten times in order to have a connection, as depicted in the figure below.



Commenters (c) would have to comment on the same videos (v) at least ten times in order to have a connection.

Data was collected utilizing YouTube API. We also reviewed YouTube content manually on a daily basis during our data collection period which assisted us in the identification of channels to analyze. Utilizing this data and analyzing the co-commenter network was imperative, as we identified that 35,601 users commented on 503 videos that were published by the selected NATO-owned, earned and hostile channels during a 34-day timeframe[4]. The comments and co-comments tied together more than 9,000 nodes with over 4.4 million edges. By narrowing it down to at least ten videos, the network was reduced to 583 nodes (which represents the commenters) connected by 5,844 edges (comments).



Co-Commenter network prominently displaying the node with the most links (564 edges).

To gain an insight of the key information actors in the network, we performed centrality calculations. Three commenters consistently ranked in the same order for total-degree centrality, betweenness centrality, closeness centrality, and Eigenvector centrality.

Narrative of Key Actors – The three key actors heavily commented on anti-NATO videos. The comments portrayed NATO as an aggressor, undermined the credibility of the Alliance and questioned its abilities.

Actor 1	Norway is still clueless. They bombed Libya not knowing anything about the country and the consequences of their actions. Nato is devil's advocate.
Actor 2	Such hypocrites. .....as if the USA are any better than Russia. Disgusting warmongers. They are endangering us all with their aggressive warmongering ways.
Actor 3	The Norwegian beer was just too strong. Norway better align with Russia. More spiritually alike and can handle alcohol. And Russian soldiers are polite and good guests. This is all an expression of the driving root mindset.

Sample comments from the three key actors.

[4] For a full report of the co-commenter analysis, please email Dr. Nitin Agarwal.

Why is this important to NATO's communicators?

A YouTube commenter network is the elementary network in relation to an overall feed in which comments are made under a post. By allowing for comments on posts the outreach increases and audiences can rapidly expand. Combining this tactic of commenting and co-commenting drives channels' visibility and its likelihood of being recommended by YouTube's algorithms through the roof. Due to the plethora of videos that were commented on by key actors identified during our analysis, these actors were rapidly accelerated to become the top influencers within the network. Identifying such actors without the methodology presented in this article is like finding a needle in a haystack.

In the end, this analysis drives home dynamic questions for commanders and decision makers while operating in this information environment, such as (to name a few):

- What is the 'So What'?
- Should I be concerned?
- Do I need to counter this?
- How do I counter this?

These questions should be answered by the strategic communications team, but recommendations are as follows:

1. Strategic communicators should incorporate SNA into the overall communications plan, aligning with operational effects through information activities.
2. Use the targeting cycle and ensure analysis is processed early (for baseline metrics) and continues throughout any operation.
3. Annotate influential actors and monitor – conduct counter operations as authorized by Rules of Engagement.

Letting our guard down gives adversaries the opportunity to insert discord or weaponize narratives or worse yet, data manipulation by denying signals or changing the information received.

Request a full report about the Trident Juncture YouTube Information Environment Analysis by contacting Dr. Nitin Agarwal at nxagarwal@ualr.edu.

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