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## **“WHY DOES THE AIR SIREN WORK?”: HOW TELEGRAM CHANNELS IN UKRAINE USE OPEN-SOURCE DATA ABOUT MILITARY DANGER FOR CONSTRUCTING KNOWLEDGE ABOUT THE WAR**

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### **Introduction**

Although many aspects of warfare have remained unchanged for centuries, the ways in which we acquire knowledge, construct understanding, and interpret traumatic events have been profoundly influenced by the advent of new technologies and the rapid proliferation of social media. This paper explores the role of such technologies, specifically Telegram channels, in wartime by examining their use of open-source intelligence to construct and disseminate knowledge about the war in Ukraine. By focusing on how these channels monitor and report drone and missile movements, the study investigates how they shape public understanding and alert civilians to war dangers.

For a long time, conducting field research in conflict zones was considered almost impossible due to the high level of danger (Baczko et al., 2021). Today, however, we can observe the frontline on our phones through the “war feed” on social media (Hoskins & Shchelin, 2023). On one hand, war has become much closer to people worldwide due to the rise of new technologies. On the other hand, making sense of military actions and the vast amount of existing content has become increasingly complex. The details of military operations have become accessible to civilians through social media and digital technology, which “not simply offer new capabilities in conducting military operations but reconstitute the social conditions shaping people’s relationship to wars” (Boichak, 2022). In this paper, I argue that new technologies and social media make information about military dangers more accessible to civilians, but the effect of this information on public perceptions of war remains largely unexplored.

One common method to inform civilians about danger during war is the use of street air sirens. However, in many countries, phone apps now play the role of alarms by notifying people whenever the military detects an air threat (Halevy, 2023). Since 2022, civilians

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in Ukraine have received information about potential dangers through phone apps— alerting them when their cities are targeted by drones and missiles. However, this information is limited; all the details about missile types and drone movements are provided by Telegram channels.

This paper examines the transformative role of Telegram channels in shaping public understanding and responses to drone attacks in Ukraine, emphasizing their contribution to digital warfare and participatory knowledge creation. Using Open-Source Intelligence (OSINT) and data from official military sources, these channels provide real-time updates on drone movements, combining detailed visualizations, emotional language, and user engagement to mediate complex military information for civilians.

Grounded in the framework of "vertical observation" (Parks, 2018), the study explores how these platforms use interactive maps and infographics to enhance civilian awareness and safety, fostering trust and participation in wartime communication. By adapting from general alerts to precise and actionable intelligence, Telegram channels facilitate immediate responses to threats and redefine public engagement with war through a participatory, media-centric approach. This research argues that such channels have become indispensable in contemporary warfare, blending military data with accessible narratives that transform the way civilians perceive and interact with the realities of conflict.

## **Method**

This study employs digital ethnographic observation (Airoldi, 2018) and analysis of ten popular Ukrainian Telegram channels that monitor air dangers in real-time. The sampling strategy involved a critical approach, selecting channels with diverse communication styles, including official sources, OSINT investigators, and personalized platforms. Channels were identified through a snowball method, ensuring a variety of monitoring approaches. Data collection included scraping messages, videos, and images using the Telegram API and the Python library Telethon. Participatory digital observation focused on observing language, visualizations, and patterns of interaction, incorporating the framework of "vertical observation" to assess how these channels mediate complex information and facilitate civilian safety. This mixed-method approach allowed for an in-depth exploration of the interplay between technological affordances and participatory warfare on Telegram.

## **Results**

The analysis demonstrates that Telegram channels use detailed infographics and interactive maps, enhancing civilian understanding of threats and enabling timely responses. The participatory nature of this activity fosters a sense of community and shared responsibility while also highlighting the critical role of social media in modern warfare.

The research underscores the evolution of these channels from basic information providers to sophisticated mediators of military data, using emotional language, visual aids, and even humor to engage users. This not only builds trust but also enhances the

accessibility of complex military information. These channels often employ unconventional language, emojis, and personalized framing, creating a relatable yet effective communication strategy. Over time, they have moved from providing general alerts to offering precise and actionable intelligence, illustrating the rapid adaptation of social media tools in a war environment.

The findings highlight the dual nature of these platforms: while they significantly enhance civilian awareness and safety, they also raise concerns about misinformation and the need for regulation to ensure accuracy and reliability. This study calls for further exploration of the ethical and operational challenges of using OSINT in public communication and emphasizes the potential of such channels to redefine civilian engagement in contemporary conflict. The participatory model observed here not only reshapes public understanding of warfare but also sets a precedent for the integration of social media in global conflict zones.

## **Conclusion**

The evolving nature of modern warfare brings with it new methods for understanding and responding to conflicts on the ground. With the overwhelming amount of information circulating in war zones, individuals need guidance to filter irrelevant data and use pertinent information for their safety. During the initial days of Russia's invasion of Ukraine, street alerts and phone apps were the most reliable sources of danger warnings. Alerts were triggered by even a slight risk to the city, prompting individuals to seek shelter. As daily attacks became a reality, people began filtering the types of alarms they received and based their actions on specific, localized information. Over time, phone apps evolved to alert users to drone and missile movements, while Telegram channels established a vast network for monitoring threats. For millions of Ukrainians, these channels became the primary source of real-time information.

The concept of visualizing drone and missile attacks, grounded in "vertical observation," has evolved alongside advancements in technology and social media. During some attacks, channels have shared over 300 messages tracking the movement of drones, missiles, and planes across Ukraine. These updates are structured to make it easy for individuals to follow regional threats, highlighting the critical role social media plays in civilian safety during wartime.

However, important questions remain. How can misinformation and disinformation be identified and mitigated within these channels? While the primary goal of these Telegram channels is to inform people about threats, they occasionally share political news, expert opinions on the frontlines, and other unrelated information. To ensure continued trust and effectiveness, it is crucial to develop tools that can detect and address misinformation within these highly trusted channels. This area presents a key opportunity for further research and development.

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