Channels of war: Exploring Ukrainian and Russian Telegramspheres during the Russian invasion in Ukraine

Keywords: social media, war, network analysis, Telegram, political communication

Extended Abstract

In recent years, Telegram has emerged as one of the most popular and influential social media platforms for political communication in Ukraine and Russia. Its role in the context of political communication in both countries has arguably become even more important since the large-scale Russian invasion in February 2022. Right now, the platform serves as a major source of news about the ongoing war in both Ukraine and Russia, and political actors on both sides actively utilize it to promote their agendas (Walt, 2023). The widespread adoption of Telegram channels in this context can be attributed to them facilitating the dissemination of information about the war, while simultaneously affording the anonymity of the disseminators. This is augmented by the coordination and mobilization afforded through Telegram's public group chats (Urman & Katz, 2022). However, despite the important role that Telegram plays in the context of Russia's war in Ukraine, its uses for spreading information about the war have not yet been comprehensively analyzed With this work-in-progress study, we aim to address this gap by addressing the following research questions:

- RQ1: How did the Russian and Ukrainian political Telegramspheres develop since the Russian invasion of Ukraine in February 2022?
- RQ2: What are the most influential actors in the Russian and Ukrainian political Telegramspheres at the time of war?
- RQ3: What are the main narratives promoted by Ukrainian and Russian Telegram actors in relation to the Russian invasion?

To answer these questions, we apply network analysis and natural language processing techniques for a dataset of 5+ million messages posted by 836 Russian- and Ukrainian-speaking Telegram channels and public group chats between January 2022 (i.e., a pre-invasion baseline) and January 2023. The data were collected using the discriminative snowball sampling approach introduced by Urman & Katz (2022) in application to Telegram. As the set of initial seeds for the data collection, we chose 10 Russian- and Ukrainian-speaking political Telegram channels such as the channels of the Ukrainian (e.g. Volodymyr Zelensky and Vitaly Kim) and Russian (e.g. Ramzan Kadyrov and Alexey Navalny) political actors as well as media outlets (e.g. TSN.ua or Ukraina Seichas. The choice of seeds was based on their prominence which we operationalised as a number of followers reported by tgstat.com.

We used network analysis to address RQ1 by creating a citation network of collected Telegram channels. In the network, one node corresponds to a group/channel and a directed edge between two nodes is equivalent to a repost or mention of one group/channel in another

one. The resulting network has 2,480,808 unweighted (349,162 weighted) edges and 50,385 nodes. We clustered the resulting network into 21 communities using a community detection algorithm (Blondel et al., 2008) with a modularity score of 0.558 that suggests medium network fragmentation. To trace how the network developed over time, we split it into monthly snapshots and, first, traced the pattern of node creation and edge formation by month and, second, repeated a modularity-based analysis on each snapshot.

Our preliminary results suggest that the biggest changes in the network structure took place in March 2022 when many new channels were created (see Fig. 1). Qualitative analysis shows that these channels predominantly belong either to Ukrainian politicians and political institutions or to Russian pro-invasion bloggers (also known as "voenkory" in Russian), indicating that both sides strategically increased their activity on Telegram after the invasion. Though the number of Ukrainian channels increased, community-based analysis coupled with HITS analysis (Kleinberg, 1998) performed to answer RQ2 demonstrates that the network is consistently dominated by pro-invasion Russian channels (e.g. Russian state media and pro-invasion bloggers) in terms of both the share of nodes and Authority and Hub scores calculated through HITS analysis.

To establish whether the dominance of pro-Kremlin channels in the network translates into the prevalence of pro-Kremlin narratives and answer RQ3 we will examine the content of Telegram messages using BERTopic (Grootendorst, 2022) to our dataset. We opt for BERTopic as it has been shown to outperform other techniques on multilingual dynamic datasets (Egger & Yu, 2022) like the one we are working with. We will also match the resulting topic distributions to Telegram metadata (e.g. the number of views each message received) to establish the dominance of specific narratives not only in terms of their sheer quantity but also the number of users they reached. The results of this analysis step will be ready by July 2023 and will be presented at IC2S2 if the abstract is accepted.

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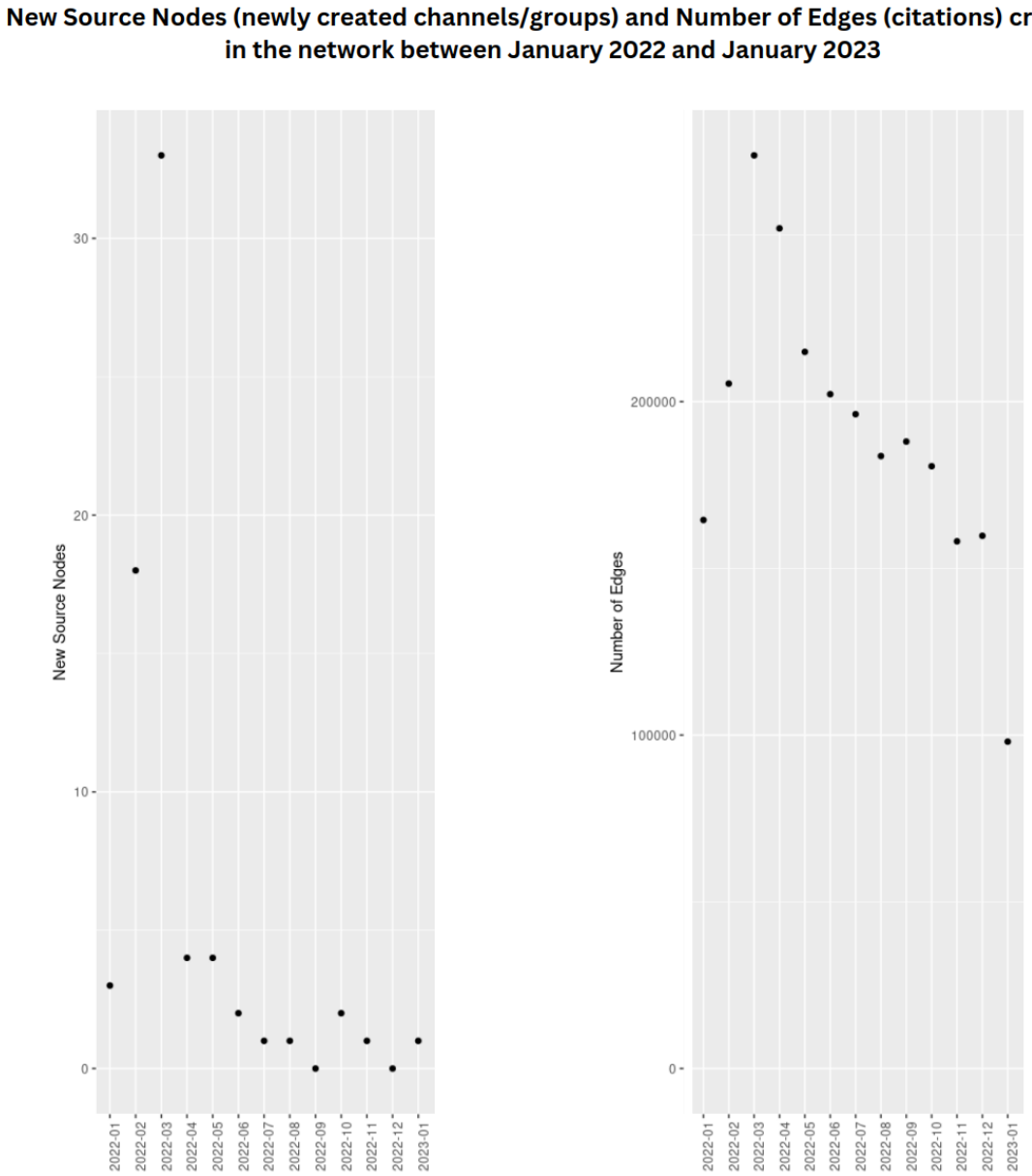

Figure 1. Number of new source nodes (new channels/groups) and edges (citations) created in the observed network each month between January 2022 and February 2022.