

KYIV SCHOOL OF ECONOMICS

PUBLIC POLICY AND GOVERNANCE

THESIS

**FRAMING WARTIME LEADERSHIP: ZELENSKYT'S TELEGRAM  
COMMUNICATION DURING RUSSIA'S FULL-SCALE INVASION OF UKRAINE**

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## **ABSTRACT.**

**This thesis examines how Volodymyr Zelenskyi's official Telegram communication framed the war during Russia's full-scale invasion of Ukraine and how these frames related to platform-visible audience response. The study uses a quantitative exploratory design based on 8,566 text-bearing posts published between 24 February 2022 and 31 December 2025, including 5,871 predominantly Ukrainian-language posts used for LDA topic modelling. The resulting topics are interpreted as provisional frames, compared across six invasion phases, and linked to Telegram emoji reactions as supplementary indicators of platform-visible response. The findings show that Zelenskyi's Telegram communication is structured around recurring frames of international support, mobilisation, civilian harm, military recognition, defence capability, diplomacy, and pressure on Russia. The main pattern is adaptation within continuity: core wartime functions remain stable, while their salience changes across phases. Emoji reactions broadly follow the main thematic structure, with somewhat stronger visible feedback for soldier-recognition messages. The thesis concludes that Zelenskyi's Telegram communication is a structured and adaptive process of wartime meaning-making in a platform-specific environment.**

**Key words:** framing, wartime leadership communication, Telegram, Zelenskyi, Russia's full-scale invasion of Ukraine, topic modelling, platform-visible audience response

**Word count:** 11938

## INTRODUCTION

This thesis investigates how wartime leadership communication functions as a continuous process of meaning-making in digital environments. It focuses on Volodymyr Zelenskyi's official Telegram communication during Russia's full-scale invasion of Ukraine and examines how recurring communicative patterns can be identified, compared across phases, and linked to platform-visible audience feedback. More broadly, the study addresses how political leadership communication under prolonged crisis can be analysed in a systematic, transparent, and theory-informed way. This thesis is situated in three connected scholarly discussions: framing theory, crisis communication, and platform-mediated political communication. Framing theory conceptualises communication as selective meaning construction: communicators make some aspects of reality salient in ways that guide problem definitions, causal attributions, moral evaluations, and action orientations (Entman, 1993; Goffman, 2010). Contemporary research further treats frames as dynamic meaning packages produced through frame-building processes and observed through changing salience over time (Van Gorp, 2007; Vreese, 2005). In parallel, scholarship on digital government communication shows that platforms reshape leader–audience interaction and produce platform-specific feedback signals, but these signals must be interpreted cautiously because platform affordances mediate visibility and participation (Bossetta, 2018; Gebauer, 1998; Hill, 1993; Nahon, 2016). Recent computational studies of leaders' war-related communication (especially on Twitter) demonstrate the value of combining framing-informed interpretation with large-scale text analysis, while also revealing platform and language biases in the current evidence base (Nisch, 2023).

**Analytical problem.** During a prolonged full-scale war, presidential communication is not limited to reporting events. It continuously organises public meaning by defining threats, assigning responsibility, sustaining mobilisation, legitimising state action, maintaining international support, and signalling acceptable political outcomes. The analytical problem is that these functions unfold simultaneously and change as the military and diplomatic environment changes. Without a systematic phase-based analysis, it remains difficult to assess whether wartime leadership communication is mainly reactive to events, whether it relies on a stable repertoire of recurring frames, and how this repertoire is rebalanced across different stages of the war.

In the Ukrainian case, this problem is particularly relevant because Zelenskyi's Telegram channel functions as a high-frequency and direct communication channel during the Russian full-scale invasion. Existing framing research explains why salience and meaning construction matter in crises, but much of the empirical literature focuses either on short-term emergencies, traditional media, or platforms other than Telegram. We therefore know too little about how high-frequency Telegram communication structures wartime meaning over time and how different provisional frames are

associated with platform-visible audience response. This thesis addresses this problem by mapping Zelenskyi's Telegram communication across invasion phases and by treating emoji reactions as supplementary indicators of platform-visible response, not as evidence of persuasion or public opinion.

**Analytical question:** How does Zelenskyi's Telegram communication frame the war across different phases of the full-scale invasion, and how are these frames associated with platform-visible audience response on Telegram?

To answer this analytical question, the thesis addresses three sub-questions:

- Descriptive: What provisional frames dominate Zelenskyi's Telegram communication in different phases of the full-scale invasion?
- Temporal comparative: How does the prevalence of these provisional frames change across invasion phases?
- Supplementary platform-visible audience response: How do provisional frames co-vary with Telegram emoji reaction volume and reaction composition?

Research design. The study adopts an exploratory design. This choice is appropriate because the thesis does not start from a fixed, pre-coded frame dictionary; instead, it aims to discover and interpret dominant meaning clusters in a large wartime corpus where Telegram-specific evidence remains limited. The main advantage is that exploratory modelling (LDA plus interpretive labelling) enables systematic and transparent mapping of frame dynamics across invasion phases. The main limitations are that topics are proxies for theoretical frames, emoji reactions are indicators of platform-visible audience response, and the design supports correlational interpretation rather than causal inference.

The empirical material includes all text-bearing posts published on Volodymyr Zelenskyi's official Telegram channel during the full-scale invasion period (24 February 2022–31 December 2025), producing an analytical corpus of 8,566 posts. For topic modelling, the thesis uses an LDA-eligible subset of 5,871 messages that are predominantly Ukrainian-language (including mixed Ukrainian - English posts where Ukrainian is prevalent). After preprocessing, tokenisation, and lemmatisation, the thesis estimates LDA topic models and interprets topics as provisional frames. Frame prevalence is then compared across researcher-defined invasion phases, while Telegram emoji reactions (volume and composition) are analysed as supplementary indicators of platform-visible audience response.

Following this introduction, the literature review synthesises scholarship on framing, digital leadership communication, and emotional dynamics and platform-visible audience response. The analytical framework defines key concepts, especially

provisional frames and platform-visible audience response, and formulates theory-guided expectations for phase-sensitive analysis. The methods chapter details case selection, data collection, preprocessing, topic modelling, and platform-visible audience response measurement. The results chapter presents the topic solution, interprets dominant provisional frames, compares their dynamics across phases, and reports supplementary reaction patterns. The discussion relates findings to theory and methodological limits, and the conclusion summarises contributions and implications for future research.

## LITERATURE REVIEW

Framing theory provides the central analytical lens for this thesis. In classic terms, frames are “schemata of interpretation” that structure how audiences make sense of events (Goffman, 2010). In political communication, framing is understood as selecting and making salient aspects of perceived reality in ways that promote specific problem definitions, causal interpretations, moral evaluations, and treatment recommendations (Entman, 1993). Framing research therefore concerns not only “what” is discussed, but “how” communicators organise meaning under conditions of uncertainty and contestation (Chong & Druckman, 2007). Contemporary scholarship also distinguishes between frame-building and frame-setting processes and between generic and issue-specific frames, which is particularly relevant for analysing communication in a prolonged war (Van Gorp, 2007; Vreese, 2005). Social-movement framing literature usefully extends this logic by treating framing as active meaning work and by distinguishing diagnostic, prognostic, and motivational framing tasks: defining a problem, assigning responsibility, proposing remedies, and motivating collective action (Snow & Benford, 1988, 1988). This is relevant for wartime leadership communication because Zelenskyi’s posts do not only describe events, but repeatedly connect threat, responsibility, moral evaluation, and action orientation.

A first strand of crisis communication research examines how leaders frame high-uncertainty events and how these frames orient public interpretation. Much of this literature is anchored in COVID-19 communication, where leaders frequently relied on war metaphors, resilience narratives, and collective-sacrifice rhetoric. For example, researchers (Van Gorp, 2007; Vreese, 2005) show how militarised rhetoric mobilised fear and solidarity, while Tao et al. (2024) demonstrate that metaphorical framing can shape emotional responses and behavioural intentions. The work offers important analytical precedents, but it is not fully transferable to wartime communication, where organised violence, territorial control, and long-term mobilisation create a different strategic and moral environment.

A second strand addresses government and leadership communication on social media. Governments are expected to inform citizens and justify policy choices (Gebauer, 1998; Hill, 1993), and digital platforms have expanded this communicative repertoire by enabling direct, continuous contact with audiences (Bonsón et al., 2014; Borucki, 2016). Research also shows that social media allow political leaders to bypass traditional gatekeeping, while simultaneously increasing exposure to criticism and reputational risk (Lev-On, 2018; Stromer-Galley, 2000). In this sense, social media do not replace legacy media, but reshape the broader hybrid information environment in which leadership communication unfolds (Casero-Ripollés, 2018).

Platform architecture is central to this transformation. Different platforms structure visibility, circulation, and feedback in distinct ways (Bossetta, 2018; Nahon, 2016).

Political communication research has nevertheless been strongly biased toward Twitter, partly because of data accessibility and the platform's role in elite political discourse (Jungherr, 2016; Stier et al., 2018). Recent computational studies of war-related leader communication on Twitter provide useful models for combining frame-focused interpretation with large-scale text analysis (Nisch, 2023). However, these findings cannot simply be transferred to Telegram, where message format, channel logic, and audience reaction affordances differ substantially.

A third strand links framing to emotional dynamics and audience response on social media. Studies in electoral and campaign contexts show that emotional cues can shape engagement intensity and response patterns across platforms (Bossetta & Schmøkel, 2023; Sahly et al., 2019). Crisis informatics research similarly highlights that social-media crisis communication involves ongoing struggles over reliability, stakeholder interaction, and resilience under uncertainty (Bukar et al., 2020). At the same time, the social-movement notion of frame resonance should be used carefully. Snow and Benford (1988) theorise resonance as the mobilising potency of a frame, and link it to credibility and salience, including frame consistency, empirical credibility, credibility of the frame articulator, centrality, experiential commensurability, and narrative fidelity. These dimensions concern whether a frame is convincing and meaningful for target audiences; they are not directly equivalent to platform metrics. Yet in protracted wartime conditions, emotional communication is less episodic and more cumulative: leaders must repeatedly recalibrate tone and emphasis as military and diplomatic conditions evolve.

Methodologically, advances in NLP and computational text analysis make it feasible to analyse this high-frequency communication at scale. Topic modelling, sentiment analysis, collocation analysis, and embedding-based approaches have become standard tools for large corpora (Sawicki et al., 2023). In war-related settings, automated methods have already been used to detect systematic variation in evaluative language and narrative positioning (Kertcher & Zwillling, 2025). Building on this trajectory, this thesis uses a computational mapping strategy in which LDA-derived topics are interpreted as “provisional frames”: empirically grounded meaning clusters that support systematic comparison across phases.

The resulting research gap is therefore specific: despite growing work on frames and sentiment in leader communication, we still lack a phase-based, Telegram-centred account of how Zelenskyi's wartime messaging is structured by recurring frames and how these frames are associated with observable audience feedback. Existing Ukrainian-focused studies provide useful entry points (Mădălina-Maria, 2023), but they remain partial and often do not capture later war phases or Telegram-specific interaction dynamics.



This thesis addresses that gap by focusing on framing and platform-visible audience response rather than on a formal crisis-emotion typology. Platform-visible audience response is treated pragmatically as visible behavioural feedback: the volume and composition of Telegram emoji reactions. These signals are interpreted cautiously as supplementary indicators of audience response, not as direct measures of inner emotional states and not as evidence of causal persuasion. Accordingly, this thesis avoids treating emoji reactions as evidence of frame resonance. It instead uses them as platform-visible audience response: a narrower, observable behavioural layer that may indicate differential engagement with frames but cannot by itself establish persuasion, mobilisation, or deep narrative fidelity.

The analytical problem addressed in this thesis is the limited understanding of how high-frequency wartime leadership communication on Telegram balances different meaning-making functions over time: mobilisation, legitimacy, civilian protection, international support, diplomacy, and acceptable war outcomes. The overarching analytical question is: How does Zelenskyi's Telegram communication frame the war across different phases of the full-scale invasion, and how are these frames associated with platform-visible audience response on Telegram?

This question is operationalised through three research questions:

1. **RQ1. Descriptive:** What provisional frames dominate in Zelenskyi's Telegram communication during different phases of the full-scale invasion?
2. **RQ2. Temporal-comparative:** How does the prevalence of these provisional frames change across invasion phases?
3. **RQ3. Supplementary platform-visible audience response:** How do provisional frames co-vary with Telegram emoji reaction volume and reaction composition?

## ANALYTICAL FRAMEWORK

### *Theoretical framework*

The study starts from the premise that political leaders do not merely report events; they actively shape how crises are understood by highlighting specific interpretations, responsibilities, evaluations, and policy responses, that is, by framing events Entman (1993). In high-stakes crises, such meaning structures matter because they can legitimise extraordinary measures, sustain mobilisation, and stabilise collective orientation under uncertainty. Wartime conditions intensify these dynamics. Under threat and informational uncertainty, leaders face incentives to (re)define the situation, construct narratives of responsibility and legitimacy, and sustain public attention and endurance over time. Framing is therefore expected to be both recurrent (relying on stable interpretive packages) and adaptive (shifting emphasis as the situation develops). Following Snow and Benford, this study treats wartime leadership framing as action-oriented meaning work: some posts diagnose the situation, attribute responsibility, propose responses, and supply motivational cues for endurance or collective action (Benford & Snow, 2000; Snow & Benford, 1988). This does not mean that every post performs all framing functions, but it provides a theoretical logic for interpreting recurring communication patterns as provisional frames rather than as mere topics.

### *Digital platforms and leader communication*

This thesis situates Zelenskyi's Telegram communication within a broader transformation of government and leadership communication on social media. Governments are expected to inform citizens and justify decisions, and digital platforms have expanded the repertoire of such communication by enabling direct, ongoing contact with audiences Gebauer (1998) and Hill (1993). At the same time, platform architectures shape the visibility, circulation, and feedback dynamics of political content in distinct ways (Bossetta, 2018; Nahon, 2016). Telegram, as a channel for direct wartime messaging, provides a specific environment (message format, dissemination dynamics, and reaction features) in which framing can be produced and observed.

Empirically, Telegram is a central platform in the Ukrainian media environment and, according to recent Ukrainian survey research on media use, is among the most used social networks in Ukraine. This makes Telegram not only a convenient data source but a substantively relevant arena in which wartime leadership framing is produced and received (Public Opinion Survey for the EU Advisory Mission in Ukraine, 2025; Snopok & Romaniuk, 2024).

## ***Conceptualisation***

In political communication, frames are commonly understood as interpretive schemata that structure how events are made meaningful. In Goffman's classic formulation, frames organise experience and guide the production and reception of meaning (Goffman, 2010). Building on this foundation, Entman (1993) defines framing as selecting aspects of perceived reality and making them more salient in a communicating text so as to promote particular (i) problem definitions, (ii) causal interpretations, (iii) moral evaluations, and (iv) treatment recommendations.

Contemporary framing research emphasises that frames are not merely text features but socially situated meaning structures. From a constructionist perspective, frames can be reconstructed as culturally and discursively grounded "packages" of meaning rather than as fixed, pre-given labels (Van Gorp, 2007). This thesis adopts this understanding and treats frames as recurring, interpretable clusters of meaning in leadership communication. Benford and Snow's collective action framing approach adds two clarifications for this thesis. First, frames are not only cognitive categories but negotiated meaning structures connected to mobilisation and public orientation. Second, frame resonance is a demanding concept: it depends on whether a frame is credible and salient to audiences, including whether it fits perceived evidence, speaker credibility, lived experience, and culturally familiar narratives (Benford & Snow, 2000; Snow & Benford, 1988).

### *Provisional frames as computationally derived topics*

The central analytical concept in this thesis is *provisional frames*: empirically derived meaning clusters that approximate frames for the purpose of mapping discourse at scale. Concretely, provisional frames are operationalised as topics extracted via topic modelling (Latent Dirichlet Allocation; LDA) (Blei et al., 2003). LDA represents each document (Telegram post) as a mixture of topics and each topic as a probability distribution over words.

This operationalisation requires a conceptual bridge between the theoretical notion of frames and the computational output of topic models. The thesis therefore does *not* assume that LDA topics are identical to theoretically specified frames. Rather, it uses topic modelling as an exploratory strategy to surface the dominant semantic clusters that structure Zelenskyi's Telegram communication, which are then interpreted and labelled considering framing theory. In this sense, LDA topics function as a pragmatic, empirically grounded approximation of frames that supports descriptive comparison over time. Therefore, the interpretive labelling of LDA topics checks not only lexical coherence but also whether a topic plausibly performs one or more framing functions:

diagnostic, prognostic, motivational, or evaluative. This strengthens the distinction between a statistical topic and a provisional frame.

This choice is aligned with recent computational work that combines large-scale text analysis with framing theory to track meaning dynamics in leaders' social-media communication Nisch (Nisch, 2023). The conceptualisation of provisional frames thus foregrounds interpretability (coherent word sets and exemplar texts) and transparency about the limits of the approximation.

### *Platform-visible audience response*

Because this study focuses on leader communication on Telegram, it additionally conceptualises platform-visible audience response as platform-specific behavioural feedback. Response is not treated as attitudinal persuasion or causal impact. Instead, it is approached as a supplementary indicator of how posts are received and reacted to within the affordances of the platform.

In this thesis, audience response is operationalised with Telegram emoji reactions in two complementary ways. First, the *volume of reactions* serves as an engagement indicator (i.e., how much observable feedback a post elicits). Second, the *composition of reactions by emoji type* is used *exploratorily* as a behavioural proxy for affective orientation (valence). Importantly, this is *not* sentiment analysis of text and does not claim to recover readers' emotions in a strong psychological sense; it is a cautious interpretation of platform reactions as low-cost signals that can be compared across provisional frames. Conceptually, this is narrower than frame resonance. Telegram reactions show that users selected a visible response option attached to a post; they do not show why users reacted, whether the post changed their attitudes, or whether the underlying frame achieved credibility, narrative fidelity, or mobilisation. The study therefore treats reaction volume and composition as platform-visible response patterns associated with provisional frames, not as proof that those frames resonated in Snow and Benford's stronger theoretical sense.

### *Operationalisation of invasion phases*

Because no widely accepted periodisation exists for wartime Telegram communication, this thesis uses a pragmatic, researcher-defined phase scheme. The boundaries are anchored in salient wartime milestones and shifts in the strategic situation; the goal is not to produce a definitive historical periodisation, but to define analytically useful segments for comparing communicative emphasis over time. Each phase is justified by a change in the operational context that is expected to shift leadership framing priorities, audiences addressed, and the balance between mobilisation, reassurance, and international diplomacy. The analytical time window is fixed to 24.02.2022–31.12.2025.

The phase operationalisation used throughout the analysis is as follows:

**Initial invasion and liberation of Kyiv oblast (24.02.2022–30.03.2022).**

From the full-scale invasion to the retreat of Russian forces from the Kyiv region. The phase is defined by an immediate, existential threat to state survival and by rapidly shifting front lines. Leadership communication is expected to prioritise emergency mobilisation, unity cues, and urgent international appeals, with frames centred on resistance, legitimacy, and external support.

**Strategic defence and territorial stabilisation (01.04.2022–11.11.2022).**

From the post-Kyiv withdrawal to the liberation of Kherson. The operational environment shifts from acute shock to sustained defence and gradual counter-momentum. Communication is expected to stabilise expectations, highlight resilience and battlefield endurance, and maintain sustained international assistance, while integrating incremental military successes into a longer narrative of resistance.

**Preparation for counter-offensive (12.11.2022–03.07.2023).** From the Kherson liberation to the eve of the summer 2023 counter-offensive. This period is marked by rebuilding capabilities, coordinating with partners, and preparing public expectations for renewed offensive action. Framing should therefore combine anticipation and preparedness, emphasising strategic patience, resource mobilisation, and continued alliance cohesion.

**Counter-offensive period (04.07.2023–01.12.2023).** From the start of major counter-offensive operations through their failure to achieve a decisive breakthrough. The operational context foregrounds high expectations, operational constraints, and contested narratives of progress. Communication is expected to balance resolve with realism, maintain morale, and manage domestic and international expectations about pace and outcomes.

**Front-line stagnation and positional war (02.12.2023–19.01.2025).** A period of slowed advances, attrition, and limited territorial change. This phase reflects a shift toward positional warfare and resource strain. Framing is expected to stress endurance, strategic necessity, and long-war legitimacy, while reinforcing the need for sustained external support and internal resilience.

**Trump-era phase (20.01.2025–31.12.2025).** From the inauguration of U.S. President Donald Trump, marking a shift in the external diplomatic and policy environment around Ukraine. Communication is expected to foreground diplomacy, conditionality, and acceptable outcomes, while continuing to anchor messages in sovereignty and security.

### ***Expected links and theoretical expectations***

The analytical strategy is exploratory and data driven. Accordingly, the theoretical framework does not specify confirmatory hypotheses with fixed independent and dependent variables. Instead, it makes explicit a set of theoretically motivated expectations about (a) the existence of recurring meaning clusters in wartime leadership communication, (b) their temporal dynamics across phases of the full-scale invasion, and (c) their association with platform reactions.

The expectations can be summarised in three parts:

**TA1. Recurrence of meaning clusters (provisional frames).** If wartime leadership communication relies on interpretable packages of meaning, then an unsupervised corpus-level mapping should recover a limited set of coherent and recurring topics that can be plausibly interpreted as provisional frames considering framing theory.

**TA2. Phase-sensitive dynamics.** If leaders adapt communicative priorities to changing wartime conditions, then the prevalence of provisional frames is expected to shift across phases of the full-scale invasion. Some clusters should persist (reflecting stable legitimising and mobilising functions), while others should emerge, intensify, or recede in response to contextual developments.

**TA3. Platform-visible audience response as supplementary feedback.** If Telegram reactions capture at least some variation in audience engagement with different types of messages, then the volume and composition of emoji reactions are expected to co-vary with particular provisional frames. This expectation is exploratory and does not imply causal inference; it motivates a supplementary correlational analysis that helps describe which meaning clusters are associated with higher engagement and with different valence-orientation proxies. This formulation follows the same caution: the expectation concerns observable platform response, not the stronger claim that emoji reactions validate frame resonance.

The empirical analysis implements this logic as a “computational mapping + interpretive labelling” strategy, where LDA is used to identify dominant topics and framing theory is used to interpret and name them, followed by descriptive phase comparison and supplementary platform-visible audience response analysis.

## METHODOLOGICAL DESIGN

This thesis adopts a quantitative, exploratory research design. The goal is to discover, describe, and compare dominant meaning structures in Zelenskyi's Telegram communication during the Russian full-scale invasion rather than to test pre-registered hypotheses. The empirical core is a computational text-analysis case study that applies topic modelling (LDA) to an LDA-eligible subset of Telegram posts (predominantly Ukrainian-language messages) and traces how topic prevalence varies across invasion phases. Audience reactions are incorporated only as supplementary indicators of platform-visible audience response; any statistical analysis is therefore correlational and descriptive, not causal.

The choice of a quantitative, data-driven design is motivated by the size and temporal scope of the Telegram corpus, the need for systematic, reproducible mapping of dominant topics, and the exploratory status of the research question in a platform- and language-specific context.

Within the quantitative approach, the study combines:

1. Unsupervised topic modelling (Latent Dirichlet Allocation) to identify recurring semantic clusters (operationalised as provisional frames).
2. Descriptive phase comparison to trace topic prevalence across invasion phases.
3. Supplementary platform-visible audience response analysis using Telegram emoji reaction volume and composition.

The unit of analysis is an individual Telegram post. Key variables are operationalised as follows:

1. Provisional frames (topics): LDA-derived topics. For each LDA-eligible post, the model yields a topic-proportion vector ( $\theta$ ). The post's dominant topic (highest proportion) is used for descriptive reporting. Data type: continuous proportions (0–1) and categorical (dominant topic).
2. Invasion phase: a derived categorical variable assigning each post to a predefined phase of the full-scale invasion (based on dates or major milestones). Data type: categorical.
3. Platform-visible audience response (reaction volume): total number of emoji reactions per post. Data type: count.
4. Platform-visible audience response (reaction composition): distribution

of emoji types per post. Data type: categorical counts and proportions.

5. Time: posting date/time from Telegram metadata. Data type: datetime.

### *Population*

The population of interest is all posts published on the verified official Telegram channel of the President of Ukraine during the Russian full-scale invasion period 24.02.2022–31.12.2025. The inclusion rule is exhaustive and includes all post formats appearing in the channel (including reposted/forwarded posts), not only original text-only messages. This population is chosen because Telegram is a central channel in Ukraine's wartime information environment and is among the most used social platforms for news and information in Ukraine. Survey evidence also indicates comparatively high trust in Telegram (and YouTube) relative to traditional media, making Telegram substantively important for understanding wartime leadership framing and reception (Public Opinion Survey for the EU Advisory Mission in Ukraine, 2025; Ukrainians Trust Telegram and YouTube More than Traditional Media, 2025; Snopok & Romaniuk, 2024).

### *Sampling and case selection*

The design uses a single-case, full-population sample within the defined time window (24.02.2022–31.12.2025). The case (Zelenskyi's official Telegram channel) is selected for its theoretical relevance as a high-visibility wartime leadership communication channel. The sampling rule is inclusive: all posts appearing in the channel in the specified date range are collected (no sub-sampling and no exclusion of reposted/forwarded posts). After preprocessing and rule-based exclusions of non-analytical items, the full text-bearing corpus contains 8,566 posts. For topic modelling, a language-eligibility filter is applied: the final LDA corpus contains 5,871 eligible messages, primarily Ukrainian-language posts, including mixed Ukrainian English posts in which Ukrainian is the dominant language.

### *Definition of invasion phases*

Invasion phases are operationalised in the analytical framework as researcher-defined analytical periods that correspond to major shifts in the wartime context. Building on that previously conceptualised periodisation, the present study uses the following phase scheme consistently across all analyses:

1. **Initial invasion and liberation of Kyiv oblast** (24.02.2022–30.03.2022). Acute shock period marked by existential threat, rapid front-line changes, emergency mobilisation, and urgent external



appeals.

2. **Strategic defence and territorial stabilisation** (01.04.2022–11.11.2022). Transition to sustained defence after the Kyiv withdrawal, with communication emphasising resilience, endurance, and continued partner support.
3. **Preparation for counter-offensive** (12.11.2022–03.07.2023). Capability-building and coordination period focused on strategic preparation, expectation management, and alliance cohesion.
4. **Counter-offensive period** (04.07.2023–01.12.2023). Phase of high expectations and operational constraints, with messaging balancing resolve, realism, and morale maintenance.
5. **Front-line stagnation and positional war** (02.12.2023–19.01.2025). Attritional phase with limited territorial shifts, emphasising long-war endurance, necessity, and sustained support.
6. **Trump-era phase** (20.01.2025–31.12.2025). Period of intensified diplomatic signalling after renewed negotiation pressure, with communication foregrounding conditionality, sovereignty, and acceptable outcomes.

### *Data collection procedures*

This study uses posts published on the official Telegram channel of the President of Ukraine during the full-scale invasion period under study. Data are collected in a single batch using a scripted export pipeline and then stored in a structured table (CSV/Excel) for analysis.

For each post, the dataset includes:

- Post text: the full message body (Ukrainian-language and sometimes English-language text).
- Timestamp: date and time of publication.
- Reactions (total): total number of emoji reactions attached to the post.
- Reactions (by type): counts for each emoji reaction type.

The dataset does not include platform exposure metrics (e.g., views), and Telegram does not provide native information about audience demographics. All code, logs, and large tables are documented in the appendices.

A reproducible quality-control filter log is generated during parsing. In the current extraction, 17,354 total entries were processed; media-only posts without textual content were excluded according to predefined rules. No duplicate IDs or duplicate text-timestamp pairs were detected. This produced a full text-bearing corpus of 8,566 posts and 31,945 reaction rows. For the LDA stage, 5,871 messages were retained as language-eligible (predominantly Ukrainian-language, including mixed Ukrainian–English messages where Ukrainian is prevalent).

### *Data analysis procedures*

Analysis proceeds in three stages: preprocessing, topic modelling, and descriptive phase/ platform-visible audience response comparison.

Stage 1: Text preprocessing Telegram posts contain heterogeneous content (text, punctuation, emojis, links). To make the corpus suitable for LDA, the following preprocessing steps are applied in sequence:

- LDA language-eligibility filtering: retain posts that are predominantly Ukrainian-language, including mixed Ukrainian–English posts where Ukrainian is prevalent. This yields the final LDA corpus of 5,871 messages.
- Cleaning: remove URLs, user mentions, and redundant markup; normalise whitespace and repeated punctuation.
- Tokenisation and lemmatisation: apply the Ukrainian language model in Stanza to identify tokens, assign part-of-speech tags, and convert words to lemmas.
- Stopword filtering: remove function words and high-frequency non-informative terms.
- Phrase detection: detect common multi-word expressions (bigrams/trigrams) and retain them as single tokens where appropriate.

Stage 2: Topic modelling LDA is estimated on the preprocessed LDA-eligible corpus (5,871 messages). LDA is a generative probabilistic model in which each document is represented as a mixture of topics and each topic is a probability distribution over words. In practice, the model yields a topic distribution for each post and a word distribution for each topic, enabling both corpus-level mapping and post-level topic attribution.

Topic-number selection follows a predefined grid-search procedure. Candidate models are estimated for  $k = 2$  to  $k = 24$  and evaluated using three criteria: perplexity, coherence ( $C_v$ ), and substantive interpretability. Perplexity is used to assess fit, with attention to diminishing returns as  $k$  increases; coherence is used to assess semantic consistency of topic word sets; interpretability is assessed by inspecting top words, high-probability exemplar posts, and topic separation in two-dimensional pyLDAvis projections. The final  $k$  is chosen as the best overall balance across these criteria (rather than on a single metric alone), prioritising models that combine strong coherence with near-minimal perplexity and clear substantive separation of topics. Topics from the selected model are then interpreted and labelled as provisional frames based on their word sets and representative posts.

Stage 3: Phase comparison and platform-visible audience response For each invasion phase, topic prevalence is summarised using average topic proportions and/or dominant-topic shares. Descriptive comparisons trace which topics persist, emerge, or decline across phases.

As a supplementary step, reaction volume and emoji-type composition are compared across topics. For composition-based comparison, the analysis uses the most consistently observed reaction types in the export (heart, sad, prayer, and thumbs-up) to ensure stable cross-topic comparability. Associations are reported as descriptive statistics and correlations; no causal claims are made.

### *Strengths and limitations*

Strengths include systematic coverage of a large, naturalistic corpus, transparency of modelling steps, and the ability to trace temporal dynamics in leadership communication. Limitations include (i) the proxy nature of LDA topics for theoretical frames, (ii) lack of exposure data (views) for calculating engagement rates, (iii) platform-specific reaction signals that cannot fully capture audience interpretation, (iv) restricted generalisability from a single-case design, and (v) language-eligibility filtering for LDA, which excludes some multilingual/non-Ukrainian messages from topic estimation. These limits are addressed by cautious interpretation, explicit proxy validation through exemplar posts, and transparency about inference boundaries.

Selection bias is mitigated by using the full population of posts within the defined period and by clearly documenting any exclusion criteria. Model-related bias is addressed through sensitivity checks for topic-number choice and preprocessing settings, including comparison across a broad candidate range ( $k = 2-24$ ) and transparent reporting of fit/coherence trade-offs before selecting the final model. Potential bias from LDA language-eligibility filtering is addressed by reporting the filter rule and the retained-message count explicitly (5,871). Analytical generalisation

(rather than statistical generalisation) is pursued by linking empirical patterns to framing theory and wartime leadership literature, while keeping claims bounded to the Ukrainian Telegram case.

## RESULTS

### *Overview of the LDA Solution*

Following the model-selection procedure specified in the Methods chapter, LDA was estimated on the language-eligible corpus of 5,871 messages (predominantly Ukrainian-language posts, including mixed Ukrainian English posts where Ukrainian is prevalent). A grid search was then run across alternative topic numbers ( $k = 2$  to  $k = 24$ ), evaluated with perplexity, coherence ( $C_v$ ), and interpretability checks. Perplexity improves strongly from low- $k$  models and then flattens in the high- $k$  range; the minimum is reached at  $k = 14$  (perplexity  $\approx 984.27$ ), while  $k = 15$  remains nearly identical (perplexity  $\approx 985.86$ ). In contrast, coherence peaks at  $k = 15$  ( $C_v \approx 0.597$ ), which is the highest value in the tested range. Substantively,  $k = 15$  also produced the clearest interpretable separation between support-seeking, mobilisation, military-governance, and pressure-related clusters in exemplar posts. For these reasons, the final model adopts  $k = 15$  as the best balance of statistical quality and interpretability. Some overlap remains expected (especially among diplomacy-related topics), and minor preprocessing artefacts (e.g., occasional fragmented lemmas) are present, but they do not materially reduce interpretability.

### *Interpreting Topics as Provisional Frames*

The most analytically relevant topics can be interpreted as provisional frames: recurring, identifiable meaning packages that organise wartime communication without being treated as one-to-one equivalents of theoretically fixed frames.

**Gratitude for international support and strengthening cooperation (Topic 3).** This is the most prevalent topic in the corpus and centres on meetings with ministers, partner states, and international institutions, typically coupled with explicit gratitude for assistance. The recurrent language of “support,” “cooperation,” “meeting,” and “help” indicates that this frame is primarily about securing and maintaining international support for Ukraine, not about negotiating a rapid end-of-war settlement. Substantively, it constructs external backing as an ongoing infrastructure of wartime endurance.

**Immediate response to strikes and civilian harm (Topic 6).** This topic clusters posts reacting to missile and drone strikes, casualties, rescue operations, and damage to urban infrastructure. The lexical pattern (“strike,” “missile,” “terror,” “city,” “life”) is event-driven and urgent. As a provisional frame, it foregrounds civilian vulnerability and moral asymmetry, while simultaneously embedding calls for protection and accountability. Typical posts combine incident reporting with acknowledgement of emergency responders and defenders.

**National unity, collective memory, and mobilisation (Topic 4).** Topic 4 organises discourse around peoplehood, sacrifice, collective memory, and national continuity. Linguistic markers of “people,” “heroes,” “independence,” and commemorative temporality suggest a frame that links present endurance to historical identity. In framing terms, this topic stabilises the moral community of “us” and supports mobilisation through symbolic continuity rather than operational detail. Zelenskyi repeatedly mobilises citizens through direct collective address, ritualised gratitude, and reminders that civilian endurance (work, volunteering, local solidarity, and emotional resilience) is part of national defence. This frame therefore integrates identity work with practical mobilisation, converting memory and belonging into sustained participation.

### *Topic Families and Overlap*

Rather than treating any topic as “technical residue,” all 15 topics can be combined into larger families that reflect how meaning clusters are positioned relative to each other. This family structure is consistent with inter-topic proximity patterns and can be visualised in pyLDAvis. The first family is soldier-gratitude communication: Recognition of military units and collective contribution (Topic 15), Battlefield gratitude and operational performance (Topic 2), and Personalised gratitude and direct interaction with soldiers (Topic 10). The second family is civilian mobilisation under war conditions: Immediate response to strikes and civilian harm (Topic 6), National unity, collective memory, and mobilisation for resistance (Topic 4), and Justice, return, and principled continuation of the struggle (Topic 9). The third family is pressure and diplomatic work against Russia: Coercive pressure on Russia to achieve peace (Topic 7), Global unity and collective security against Russian aggression (Topic 5), and Sanctions pressure on Russia (Topic 14). The fourth family is domestic governance and internal processes: Economic resilience and domestic support during wartime (Topic 12) and Internal military governance and defence capability development (Topic 13). The fifth family is diplomacy with partners for support to Ukraine: Coordinated diplomacy for peace with key involvement of the United States (Topic 8), European and Euro-Atlantic integration as strategic strengthening (Topic 1), Advancing Ukraine’s peace formula through international engagement (Topic 11), and Gratitude for international support and strengthening cooperation (Topic 3). Detailed labels and top-word compositions are reported in Table 1.

| <b>Table 1: Overview of LDA topics</b> |              |                    |                                           |
|----------------------------------------|--------------|--------------------|-------------------------------------------|
| <b>Topic number</b>                    | <b>Label</b> | <b>Top-5 words</b> | <b>Interpretation</b>                     |
| 1                                      | European and | європейський       | Frames integration as a strategic pathway |

|   |                                                                           |             |                                                                                                                                                                 |
|---|---------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Euro-Atlantic integration as strategic strengthening                      | нато        | strengthening Ukraine (problem/solution), attributing resilience to alignment with European structures and shared values.                                       |
|   |                                                                           | єс          |                                                                                                                                                                 |
|   |                                                                           | європа      |                                                                                                                                                                 |
|   |                                                                           | польща      |                                                                                                                                                                 |
| 2 | Battlefield gratitude and operational performance                         | напрямок    | Defines the war as active defence (problem) and frames Ukrainian forces as effective agents (evaluation), linking battlefield success to justified resistance.  |
|   |                                                                           | воїн        |                                                                                                                                                                 |
|   |                                                                           | дякувати    |                                                                                                                                                                 |
|   |                                                                           | російський  |                                                                                                                                                                 |
|   |                                                                           | окупант     |                                                                                                                                                                 |
| 3 | Gratitude for international support and strengthening cooperation         | підтримка   | Frames external support as both cause of resilience and necessary remedy, legitimising continued assistance as strategically essential.                         |
|   |                                                                           | міністр     |                                                                                                                                                                 |
|   |                                                                           | дякувати    |                                                                                                                                                                 |
|   |                                                                           | прем        |                                                                                                                                                                 |
|   |                                                                           | єрний       |                                                                                                                                                                 |
| 4 | National unity, collective memory, and mobilisation for resistance        | людина      | Defines the war as a collective struggle (problem), morally evaluates it through identity and history, and prescribes endurance as a shared duty.               |
|   |                                                                           | життя       |                                                                                                                                                                 |
|   |                                                                           | українець   |                                                                                                                                                                 |
|   |                                                                           | пам         |                                                                                                                                                                 |
|   |                                                                           | український |                                                                                                                                                                 |
| 5 | Global unity and collective security against Russian aggression           | світ        | Frames Russian aggression as a systemic threat (problem), linking Ukraine's defence causally to global stability and prescribing international unity as remedy. |
|   |                                                                           | європа      |                                                                                                                                                                 |
|   |                                                                           | мати        |                                                                                                                                                                 |
|   |                                                                           | країна      |                                                                                                                                                                 |
|   |                                                                           | могти       |                                                                                                                                                                 |
| 6 | Immediate response to Russian strikes and civilian harm                   | російський  | Defines attacks as humanitarian crises (problem), attributes causality to Russia, morally condemns them, and implies urgent need for protection.                |
|   |                                                                           | удар        |                                                                                                                                                                 |
|   |                                                                           | людина      |                                                                                                                                                                 |
|   |                                                                           | ракета      |                                                                                                                                                                 |
|   |                                                                           | життя       |                                                                                                                                                                 |
| 7 | Coercive pressure on Russia to achieve peace                              | росія       | Diagnoses Russia (Putin) as causal agent, frames peace as blocked intentionally and prescribes sustained external pressure as necessary remedy.                 |
|   |                                                                           | війна       |                                                                                                                                                                 |
|   |                                                                           | мир         |                                                                                                                                                                 |
|   |                                                                           | путін       |                                                                                                                                                                 |
|   |                                                                           | могти       |                                                                                                                                                                 |
| 8 | Coordinated diplomacy for peace with key involvement of the United States | зустріч     | Frames peacebuilding as a coordinated process (solution), attributing effectiveness to alignment among key international actors.                                |
|   |                                                                           | президент   |                                                                                                                                                                 |
|   |                                                                           | безпека     |                                                                                                                                                                 |
|   |                                                                           | мир         |                                                                                                                                                                 |
|   |                                                                           | партнер     |                                                                                                                                                                 |
| 9 | Justice, return,                                                          | російський  | Frames the war as a struggle for justice (problem),                                                                                                             |

|    |                                                                    |               |                                                                                                                                                                               |
|----|--------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | and principled continuation of the struggle                        | людина        | linking outcomes to restoration of rights and territories, and prescribing continued resistance as necessary for a just resolution.                                           |
|    |                                                                    | росія         |                                                                                                                                                                               |
|    |                                                                    | мати          |                                                                                                                                                                               |
|    |                                                                    | світ          |                                                                                                                                                                               |
| 10 | Personalised gratitude and direct interaction with soldiers        | дякувати      | Frames the war through individual sacrifice (evaluation), reinforcing moral legitimacy of the struggle via personal recognition and humanisation.                             |
|    |                                                                    | воїн          |                                                                                                                                                                               |
|    |                                                                    | слава         |                                                                                                                                                                               |
|    |                                                                    | держава       |                                                                                                                                                                               |
|    |                                                                    | український   |                                                                                                                                                                               |
| 11 | Advancing Ukraine's peace formula through international engagement | мир           | Defines peace in Ukraine-led terms (solution), attributing legitimacy to sovereignty and territorial integrity, and prescribing international support for its implementation. |
|    |                                                                    | саміт         |                                                                                                                                                                               |
|    |                                                                    | підтримка     |                                                                                                                                                                               |
|    |                                                                    | обговорити    |                                                                                                                                                                               |
|    |                                                                    | український   |                                                                                                                                                                               |
| 12 | Economic resilience and domestic support during wartime            | мати          | Frames economic stability as a prerequisite for endurance (problem/solution), linking state action causally to societal resilience during war.                                |
|    |                                                                    | держава       |                                                                                                                                                                               |
|    |                                                                    | український   |                                                                                                                                                                               |
|    |                                                                    | робота        |                                                                                                                                                                               |
|    |                                                                    | людина        |                                                                                                                                                                               |
| 13 | Internal military governance and defence capability development    | дрон          | Defines defence as organised state management (solution), attributing effectiveness to coordination, planning, and institutional control.                                     |
|    |                                                                    | оборона       |                                                                                                                                                                               |
|    |                                                                    | доповідь      |                                                                                                                                                                               |
|    |                                                                    | виробництво   |                                                                                                                                                                               |
|    |                                                                    | міністр       |                                                                                                                                                                               |
| 14 | Sanctions pressure on Russia                                       | росія         | Frames sanctions as a strategic tool (solution), linking economic pressure causally to weakening Russia's war capacity.                                                       |
|    |                                                                    | російський    |                                                                                                                                                                               |
|    |                                                                    | санкція       |                                                                                                                                                                               |
|    |                                                                    | мати          |                                                                                                                                                                               |
|    |                                                                    | санкційний    |                                                                                                                                                                               |
| 15 | Recognition of military units and collective contribution          | бригада       | Frames defence as a collective institutional effort (evaluation), reinforcing legitimacy through visibility of organised military structures.                                 |
|    |                                                                    | окремий       |                                                                                                                                                                               |
|    |                                                                    | ім            |                                                                                                                                                                               |
|    |                                                                    | я             |                                                                                                                                                                               |
|    |                                                                    | механізований |                                                                                                                                                                               |

*Note: Author's calculations based on the LDA output.*

### ***Overall Topic Prevalence***

In direct answer to the first research question (RQ1), the most prevalent provisional frames in the full corpus are Gratitude for international support and strengthening



cooperation (Topic 3), Immediate response to Russian strikes and civilian harm (Topic 6), Coordinated diplomacy for peace with key involvement of the United States (Topic 8), National unity, collective memory, and mobilisation for resistance (Topic 4), and Internal military governance and defence capability development (Topic 13). Their exact ranks and mean topic proportions are shown in Table 2. This concentration indicates that Zelenskyi's Telegram communication is structured around a limited set of recurring meaning clusters rather than a diffuse thematic field.

Using the family interpretation above, overall prevalence combines: (i) diplomacy with partners for support to Ukraine (Topics 8, 1, 11, 3), (ii) soldier-gratitude communication (Topics 15, 2, 10), (iii) civilian mobilisation communication (Topics 6, 4, 9), (iv) pressure and diplomatic work against Russia including sanctions (Topics 7, 5, 14), and (v) domestic governance/internal processes (Topics 12, 13). The family composition is reflected in the Table 3. This composition shows a multi-track communication structure in which external support-building, domestic mobilisation, and internal state capacity are articulated simultaneously.

**Table 2: topic prevalence (overall)**

| <b>Topic number</b> | <b>Title</b>                                                              | <b>Theta</b> | <b>Percentage of posts where topic is dominated</b> |
|---------------------|---------------------------------------------------------------------------|--------------|-----------------------------------------------------|
| 1                   | European and Euro-Atlantic integration as strategic strengthening         | 0.05790411   | 5%                                                  |
| 2                   | Battlefield gratitude and operational performance                         | 0.05979577   | 6%                                                  |
| 3                   | Gratitude for international support and strengthening cooperation         | 0.12498779   | 16%                                                 |
| 4                   | National unity, collective memory, and mobilisation for resistance        | 0.07704145   | 8%                                                  |
| 5                   | Global unity and collective security against Russian aggression           | 0.06740018   | 7%                                                  |
| 6                   | Immediate response to Russian strikes and civilian harm                   | 0.09482449   | 11%                                                 |
| 7                   | Coercive pressure on Russia to achieve peace                              | 0.06077022   | 4%                                                  |
| 8                   | Coordinated diplomacy for peace with key involvement of the United States | 0.08045969   | 8%                                                  |
| 9                   | Justice, return, and principled continuation of the struggle              | 0.06039726   | 5%                                                  |
| 10                  | Personalised gratitude and direct interaction with soldiers               | 0.06731692   | 6%                                                  |
| 11                  | Advancing Ukraine's peace formula through international engagement        | 0.05824854   | 5%                                                  |
| 12                  | Economic resilience and domestic support during wartime                   | 0.04681614   | 4%                                                  |
| 13                  | Internal military governance and defence capability development           | 0.07188563   | 8%                                                  |
| 14                  | Sanctions pressure on Russia                                              | 0.05148313   | 4%                                                  |

|    |                                                           |            |    |
|----|-----------------------------------------------------------|------------|----|
| 15 | Recognition of military units and collective contribution | 0.02066867 | 2% |
|----|-----------------------------------------------------------|------------|----|

*Note: Author's calculations based on the LDA output.*

| <b>Table 3: topic prevalence (by family)</b> |                                                                 |                                       |                                                      |
|----------------------------------------------|-----------------------------------------------------------------|---------------------------------------|------------------------------------------------------|
| <b>Family number</b>                         | <b>Family title</b>                                             | <b>Topics contained in the family</b> | <b>Percentage of posts where family is dominated</b> |
| 1                                            | Diplomacy for support Ukraine                                   | 8, 1, 11, 3                           | 34%                                                  |
| 2                                            | Soldier-gratitude communication                                 | 15, 2, 10                             | 14%                                                  |
| 3                                            | Civilian mobilisation communication                             | 6, 4, 9                               | 24%                                                  |
| 4                                            | Pressure and diplomatic work against Russia including sanctions | 7, 5, 14                              | 15%                                                  |
| 5                                            | Domestic governance                                             | 12, 13                                | 12%                                                  |

*Note: Author's calculations based on the LDA output.*

### *Variation Across Invasion Phases*

Across the six invasion phases, topic salience shows both continuity and adaptation: some topics remain recurrent across time, while others become dominant only in specific phases.

Two structures are comparatively stable. Gratitude for international support and strengthening cooperation (Topic 3) remains salient across all phases after the initial emergency period, and Immediate response to Russian strikes and civilian harm (Topic 6) remains visible throughout the full timeline. Their persistence indicates durable communication functions: maintaining external support and continuously narrating civilian protection under attack.

The phase-dominance pattern is clear. In Phases 1–2, National unity, collective memory, and mobilisation for resistance (Topic 4) is the most prevalent topic. This early prominence fits an emergency framing logic in Entman's terms: defining the situation as existential threat, morally polarising aggression versus collective defence, and promoting collective endurance as the required response. In Phases 3–5, Gratitude for international support and strengthening cooperation (Topic 3) becomes the leading topic, indicating a shift toward sustaining coalition resources and institutionalised partner coordination as war management becomes more prolonged. In Phase 6, Coordinated diplomacy for peace with key involvement of the United States (Topic 8) becomes the most prevalent, which co-varies with the U.S.-centred negotiation push after Donald Trump enters the White House on 20 January 2025 and promotes rapid war termination.

From a framing-theoretical perspective, the result is changing salience, not frame

replacement: core wartime frames persist, but different frames become dominant when context and strategic priorities shift. This directly answers TA1 by showing that Zelenskyi's communication repertoire is both recurrent and phase sensitive.

| <b>Table 4: Topic prevalence by phase</b>       |                         |                                                                                     |
|-------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------|
| <b>Phase</b>                                    | <b>Duration</b>         | <b>Prevalent topic</b>                                                              |
| Initial invasion and liberation of Kyiv oblast  | 24.02.2022 - 30.03.2022 | National unity, collective memory, and mobilisation for resistance (Topic 4)        |
| Strategic defence and territorial stabilisation | 01.04.2022 - 11.11.2022 | National unity, collective memory, and mobilisation for resistance (Topic 4)        |
| Preparation for counter-offensive               | 12.11.2022 - 03.07.2023 | Gratitude for international support and strengthening cooperation (Topic 3)         |
| Counter-offensive period                        | 04.07.2023 - 01.12.2023 | Gratitude for international support and strengthening cooperation (Topic 3)         |
| Front-line stagnation and positional war        | 02.12.2023 - 19.01.2025 | Gratitude for international support and strengthening cooperation (Topic 3)         |
| Trump-era phase                                 | 20.01.2025 - 31.12.2025 | Coordinated diplomacy for peace with key involvement of the United States (Topic 8) |

*Note: Author's calculations based on the LDA output.*

### ***Supplementary Analysis: Emoji Reactions***

The emoji reaction analysis is treated as a supplementary layer of platform-visible audience response rather than as a direct measure of audience attitudes, emotional states, persuasion, or frame resonance. Telegram reactions show that users selected a visible response option attached to a post, but they do not reveal why users reacted, whether they accepted the frame, or whether the message changed their interpretation of the war. For this reason, the following analysis is descriptive and should be read as an additional platform-level comparison rather than as evidence of framing effects.

The available Telegram export allows comparison of reaction volume and reaction composition across provisional frames. The analysis uses total reactions and the most consistently observed reaction types: heart, sad, prayer, and thumbs-up. To avoid overinterpreting small differences between individual topics, the analysis first compares broader topic families and then uses topic-level results only as supporting detail.

|                                                                      |
|----------------------------------------------------------------------|
| <b>Table 5: share of posts vs share of total volume of reactions</b> |
|----------------------------------------------------------------------|

| Family number | Family title                                                    | Share of posts | Share of total volume of reactions |
|---------------|-----------------------------------------------------------------|----------------|------------------------------------|
| 1             | Diplomacy for support Ukraine                                   | 34%            | 36%                                |
| 2             | Soldier-gratitude communication                                 | 14%            | 16%                                |
| 3             | Civilian mobilisation communication                             | 24%            | 24%                                |
| 4             | Pressure and diplomatic work against Russia including sanctions | 15%            | 12%                                |
| 5             | Domestic governance                                             | 12%            | 12%                                |

*Note: Author's calculations based on the LDA output.*

The family-level comparison shows that reaction shares broadly follow the distribution of posts across topic families. Diplomacy for support to Ukraine accounts for approximately 34% of dominant-topic posts and 36% of reactions. Soldier-gratitude communication accounts for approximately 14% of posts and 16% of reactions. Civilian mobilisation communication accounts for approximately 24% of posts and 24% of reactions, while domestic governance accounts for approximately 12% of posts and 12% of reactions. The clearest negative deviation is visible in pressure and diplomatic work against Russia, including sanctions, which accounts for approximately 15% of posts but only 12% of reactions.

This means that Telegram reaction volume does not reveal a separate audience-response structure that radically differs from the thematic structure of the communication itself. Instead, reaction distribution largely mirrors communication prevalence, with only modest deviations. The most cautious interpretation is therefore that emoji reactions are useful as a supplementary feedback indicator, but they do not substantially revise the main picture produced by the topic and phase analysis.

At the same time, several limited patterns are still analytically relevant. Soldier-gratitude communication has the highest average reaction volume per dominant post, suggesting that recognition-oriented messages about soldiers and military units generate somewhat stronger platform-visible feedback than most other frame families. By contrast, pressure- and sanctions-related communication receives a lower share of reactions than its share of posts. This difference may indicate that personalised recognition and support-oriented communication are more response-generating within Telegram's reaction affordances than more abstract coercive-pressure messaging, although the difference is not large enough to support strong claims about audience preference or resonance.

**Table 6: Mean reactions by topic**

| Topic number | Title | Mean |
|--------------|-------|------|
|--------------|-------|------|

|    |                                                                           |         |
|----|---------------------------------------------------------------------------|---------|
| 1  | European and Euro-Atlantic integration as strategic strengthening         | 3756.67 |
| 2  | Battlefield gratitude and operational performance                         | 4247.33 |
| 3  | Gratitude for international support and strengthening cooperation         | 4098.25 |
| 4  | National unity, collective memory, and mobilisation for resistance        | 4036.02 |
| 5  | Global unity and collective security against Russian aggression           | 2975.05 |
| 6  | Immediate response to Russian strikes and civilian harm                   | 4006.60 |
| 7  | Coercive pressure on Russia to achieve peace                              | 3451.97 |
| 8  | Coordinated diplomacy for peace with key involvement of the United States | 4105.40 |
| 9  | Justice, return, and principled continuation of the struggle              | 3227.16 |
| 10 | Personalised gratitude and direct interaction with soldiers               | 4219.19 |
| 11 | Advancing Ukraine's peace formula through international engagement        | 4129.95 |
| 12 | Economic resilience and domestic support during wartime                   | 3090.10 |
| 13 | Internal military governance and defence capability development           | 4074.39 |
| 14 | Sanctions pressure on Russia                                              | 2933.44 |
| 15 | Recognition of military units and collective contribution                 | 5168.60 |

*Note: Author's calculations based on the LDA output.*

At the topic level, the same cautious pattern is visible. Recognition of military units and collective contribution (Topic 15) has the highest mean number of reactions per post, despite being one of the least prevalent topics. Battlefield gratitude and operational performance (Topic 2), Personalised gratitude and direct interaction with soldiers (Topic 10), Advancing Ukraine's peace formula through international engagement (Topic 11), and Coordinated diplomacy for peace with key involvement of the United States (Topic 8) also receive relatively high average reaction volumes. Lower average reaction levels are more typical for Sanctions pressure on Russia (Topic 14), Global unity and collective security against Russian aggression (Topic 5), and Economic resilience and domestic support during wartime (Topic 12). However, these differences should be interpreted as variation in platform-visible feedback, not as proof that some frames were more persuasive, emotionally effective, or socially resonant.

| Table 7: Reaction composition by topic |                                                                   |                 |           |         |         |         |
|----------------------------------------|-------------------------------------------------------------------|-----------------|-----------|---------|---------|---------|
| Topic number                           | Title                                                             | Total reactions | ❤         | 🤔       | 🙏       | 👍       |
| 1                                      | European and Euro-Atlantic integration as strategic strengthening | 1,104,460       | 784,827   | 117,738 | 69,899  | 131,996 |
| 2                                      | Battlefield gratitude and operational performance                 | 1,613,986       | 1,121,144 | 233,609 | 142,138 | 117,095 |

|    |                                                                           |           |           |           |         |         |
|----|---------------------------------------------------------------------------|-----------|-----------|-----------|---------|---------|
| 3  | Gratitude for international support and strengthening cooperation         | 3,758,097 | 2,725,380 | 407,107   | 223,516 | 402,094 |
| 4  | National unity, collective memory, and mobilisation for resistance        | 1,888,859 | 1,320,572 | 284,748   | 167,884 | 115,655 |
| 5  | Global unity and collective security against Russian aggression           | 1,175,145 | 803,394   | 145,561   | 73,429  | 152,761 |
| 6  | Immediate response to Russian strikes and civilian harm                   | 2,548,199 | 952,611   | 1,035,032 | 441,085 | 119,471 |
| 7  | Coercive pressure on Russia to achieve peace                              | 900,963   | 588,041   | 93,187    | 102,512 | 117,223 |
| 8  | Coordinated diplomacy for peace with key involvement of the United States | 2,019,856 | 1,541,226 | 65,559    | 208,591 | 204,480 |
| 9  | Justice, return, and principled continuation of the struggle              | 1,039,144 | 655,801   | 183,231   | 97,812  | 102,300 |
| 10 | Personalised gratitude and direct interaction with soldiers               | 1,430,304 | 1,069,874 | 162,212   | 97,594  | 100,624 |
| 11 | Advancing Ukraine's peace formula through international engagement        | 1,267,894 | 904,325   | 120,829   | 73,805  | 168,935 |
| 12 | Economic resilience and domestic support during wartime                   | 781,795   | 576,856   | 58,660    | 55,583  | 90,696  |
| 13 | Internal military governance and defence capability development           | 1,902,741 | 1,296,067 | 239,339   | 161,907 | 205,428 |
| 14 | Sanctions pressure on Russia                                              | 733,359   | 471,318   | 84,687    | 64,097  | 113,257 |
| 15 | Recognition of military units and collective contribution                 | 465,174   | 320,508   | 73,157    | 37,390  | 34,119  |

Reaction composition adds a second descriptive layer. Immediate response to Russian strikes and civilian harm (Topic 6) is the clearest outlier: it receives a much larger share of sad and prayer reactions than other topics. This is consistent with the humanitarian and grief-oriented content of this frame. In contrast, diplomacy- and gratitude-related topics tend to be more heart-dominant, while sanctions and peace-formula-related communication show relatively stronger thumbs-up shares. These patterns are substantively plausible, but they remain descriptive. They show how Telegram users used available reaction affordances across different types of posts; they do not allow inference about the deeper interpretation, motivation, or emotional state of the audience.

Overall, the emoji analysis supports a modest conclusion: Telegram reactions mostly reproduce the visibility of the main communication themes, while adding limited evidence that soldier-recognition messages and some support-oriented diplomatic messages generate slightly stronger platform-visible feedback. The analysis therefore strengthens the thesis only in a bounded way. It confirms that the main contribution of the study lies in the phase-based mapping of provisional frames, while emoji reactions serve as a supplementary indicator of how these frames are visibly interacted with on Telegram.

This also limits the role of reaction data in the policy implications of the thesis. Emoji reactions should not be used to claim that audiences “prefer” certain frames, that some frames “resonate” in the strong theoretical sense, or that specific communication choices caused particular audience responses. Their value is narrower: they indicate whether different provisional frames are associated with different levels and types of visible platform feedback. Future research would need survey data, interviews, exposure metrics, or experimental designs to assess whether these reaction patterns correspond to actual audience interpretation, persuasion, or mobilisation.

Taken together, the results show a strong correspondence between topic salience and the changing operational context of the war. In the initial invasion phases, National unity, collective memory, and mobilisation for resistance (Topic 4) is most prominent, matching the immediate need for internal consolidation and societal mobilisation. In the middle phases, international support and cooperation (Topic 3) becomes dominant, consistent with prolonged dependence on coalition resources and external coordination. In the final phase, coordinated diplomacy for peace with U.S. involvement (Topic 8) rises to the top, aligning with the Trump-era environment after 20 January 2025.

These patterns indicate phase-sensitive adaptation rather than a static communication script. Empirically, the distribution of dominant topics changes with shifts in battlefield and diplomatic conditions, which supports the interpretation that Zelenskyi's messaging is primarily reactive to changing internal and external constraints rather than trendsetting in isolation. At the same time, the data do not suggest full topic replacement: war-related and soldier-centred communication remains recurrent across phases, indicating durable core functions of wartime leadership discourse.

As a working generalisation for subsequent interpretation, the study proposes the following expectation: in prolonged high-intensity conflict, phase-specific topical priorities are likely to shift with strategic context, while a stable backbone of military, mobilisation, and defender-recognition topics persists across periods. This expectation is analytical rather than causal and should be tested against future phase updates and, where possible, alternative periodisations.

## DISCUSSION

This study contributes to the academic discussion on wartime political communication by addressing a broader analytical problem: how high-frequency leadership communication remains structured over a prolonged war while responding to changing military and diplomatic conditions. This problem sits at the intersection of framing theory, crisis communication, and platform-mediated political communication. Following Entman's understanding of framing as selection and salience, the thesis treats Zelenskyi's Telegram posts not as isolated statements, but as a continuous communication output in which some aspects of the war are repeatedly made more visible than others (Entman, 1993). At the same time, the analysis follows constructionist framing scholarship by treating frames as socially situated meaning packages rather than merely as keywords or topics (Van Gorp, 2007; Vreese, 2005). The first contribution concerns the use of framing theory in large-scale computational analysis. The findings support the view that wartime leadership communication is a patterned process of meaning construction rather than a random flow of crisis messages. Zelenskyi's Telegram communication repeatedly foregrounds international support, national mobilisation, civilian harm, military recognition, diplomatic agency, and pressure on Russia. In Entman's terms, these recurrent emphases contribute to problem definition, causal attribution, moral evaluation, and treatment orientation (Entman, 1993). However, the thesis does not claim that LDA topics are full frames in the classical sense. Following Van Gorp's distinction between textual manifestations and deeper frame packages, the study treats LDA-derived topics as provisional frames: empirically grounded meaning clusters that require interpretive validation before they can be used in framing analysis (Van Gorp, 2007).

This distinction is important because it speaks directly to a methodological tension in framing research. De Vreese argues that framing research often suffers from inconsistency in identifying and operationalising frames, especially when studies generate issue-specific frames without sufficient comparability (Vreese, 2005). This thesis responds to that problem by using a transparent computational procedure to identify recurrent meaning clusters, while avoiding the stronger claim that topic modelling automatically "discovers" frames. The contribution is therefore methodological as well as substantive: LDA provides a replicable starting point for mapping a large wartime corpus, while framing theory provides the interpretive logic for deciding whether a topic can be read as a provisional frame.

The second contribution concerns leader communication on social media during Russia's war against Ukraine. Existing computational research has already shown the value of analysing political leaders' war-related communication through topic modelling and sentiment analysis. Nisch's study of Olaf Scholz's Twitter communication, for example, identifies four frames during the first year of the full-



scale invasion: effects of the invasion, climate and environment, solidarity, and Russian aggression (Nisch, 2023). This thesis extends that line of research in three ways. First, it shifts the empirical focus from a Western leader indirectly involved in the war to the Ukrainian wartime president. Second, it extends the time horizon from a one-year snapshot to almost the entire full-scale invasion period covered by the dataset. Third, it moves from Twitter to Telegram, a platform with different communication affordances, channel architecture, and reaction mechanisms.

The Telegram focus is therefore not only an empirical novelty. It is analytically important because platform architecture shapes visibility, circulation, and feedback dynamics (Bossetta, 2018; Nahon, 2016). Twitter-centred studies are valuable, but their assumptions cannot be transferred automatically to Telegram. Telegram's broadcast-channel format creates a different relationship between leader, message, and audience response. The findings therefore strengthen the argument that platform-specific evidence is necessary for valid inference in digital political communication.

## **POLICY RECOMMENDATIONS**

This research shows that the President's Telegram channel has become a central instrument of state communication with a wide public reach. The analysis does not allow direct conclusions about the internal intentions or planning processes behind this communication. It cannot prove whether the observed topic structure was deliberately designed by the President's communication team or emerged through repeated responses to changing events. However, the findings do show that the communication output itself is structured, recurrent, and phase-sensitive. This distinction is important: even if the internal intent cannot be verified, the observable structure of the channel has practical policy relevance because it shapes which aspects of the war become more visible to a large public audience.

The distribution of topics between 2022 and 2025 indicates a clear pattern. In the first phase of the full-scale invasion, posts were dominated by national unity, collective memory, and mobilisation. This was later replaced by a stronger focus on international support, diplomatic cooperation, and expressions of gratitude to partners. In the most recent phase, attention shifted again towards peace negotiations and diplomatic conditionality as these issues became more visible in the international agenda. These shifts are understandable in a crisis environment, where leadership communication must respond to changing military and political conditions. At the same time, they also suggest that the channel is highly sensitive to external developments. The communication adapts effectively, but it appears highly responsive to already salient developments, which creates a risk that Ukraine-defined priorities may become less visible when the external agenda shifts.

This creates the first policy implication: the President's Telegram channel should be treated not only as a communication channel, but as a strategic state communication instrument. Its scale, direct reach, and symbolic authority mean that it does more than reflect events. It also contributes to how events are interpreted, prioritised, and normalised in the public information environment. Therefore, wartime communication through this channel should combine necessary responsiveness with a more stable hierarchy of strategic narratives. Communication should remain flexible enough to address urgent developments, but it should also preserve continuity around Ukraine's core objectives: sovereignty, accountability for Russian aggression, sustained international support, defence capability, societal resilience, and Ukraine-defined conditions for peace.

The recent discussion around peace negotiations illustrates this point. As negotiations became more prominent in the international agenda, the President's Telegram communication also shifted towards this issue. This is logical and, to some extent, necessary. However, the analysis shows that the topic related to coordinated diplomacy with key involvement of the United States became more visible than the topic related

to Ukraine's own peace formula. This does not mean that the communication was wrong or that U.S.-led diplomacy should be ignored. The risk is more specific: when externally driven diplomatic initiatives receive greater visibility than Ukraine-defined settlement principles, the channel may unintentionally amplify agendas that are not fully controlled by Ukraine or not fully aligned with Ukraine's strategic interests.

For this reason, the first recommendation is to maintain clearer continuity of Ukraine-defined diplomatic framing. Posts on negotiations should systematically link external diplomatic processes to Ukraine's own conditions for a just and sustainable peace. This means giving more consistent visibility to Ukraine's peace formula, security guarantees, accountability, territorial integrity, and cooperation with European partners. The goal is not to reduce coverage of U.S.-led negotiations, but to ensure that such coverage is anchored in Ukraine's own strategic vocabulary. In practical terms, the channel should not only report that negotiations are taking place; it should repeatedly clarify what kind of peace Ukraine seeks, which principles are non-negotiable, and how partner involvement supports these principles.

The second policy issue concerns the internal balance between state-oriented communication and personalised political communication. The results show that most content remains focused on matters directly related to the war, including military developments, international assistance, civilian harm, defence capability, and diplomatic efforts. This indicates that the channel currently functions primarily as a tool of state communication rather than personal promotion. At the same time, the model also identifies a distinct personalised communication component. Its current share is limited, but its presence is analytically important because the balance between public-interest communication and personalised political messaging is not fixed.

This creates the second recommendation: public-interest communication should remain clearly dominant. Content related to the war, state functions, defence, diplomacy, civilian protection, and societal resilience should continue to form the core of the channel. Messages focused on personal achievements, individual political positioning, or leader-centred visibility should remain proportionally limited and clearly connected to public functions. The issue is not the complete absence of personalised communication. In wartime leadership communication, some degree of personalisation is unavoidable and may even support trust, visibility, and mobilisation. The issue is proportionality. If personalised content expands too far, the channel risks being perceived less as a state communication instrument and more as a political branding tool.

This distinction matters especially in the context of a prolonged war. As the war continues, public communication must sustain trust, manage expectations, justify difficult decisions, and support policy implementation. These functions depend on credibility. If the President's Telegram channel is perceived as serving narrow political

interests, its credibility as a state communication channel may weaken. Conversely, if it maintains a clear public-interest orientation, it can continue to support public resilience and strategic clarity under changing conditions.

The broader recommendation is therefore to introduce more systematic monitoring of the channel's communicative balance. The President's communication team, or any state body responsible for strategic communication, could regularly assess the distribution of major frame families: military recognition, civilian harm, international support, diplomatic positioning, domestic governance, societal mobilisation, and personalised messaging. Such monitoring would not require rigid quotas or mechanical content planning. Its purpose would be to prevent important strategic narratives from disappearing when the external agenda shifts, and to ensure that reactive communication does not crowd out Ukraine-defined priorities.

In summary, the findings suggest that the President's Telegram channel should be understood as a policy-relevant communication infrastructure. The research does not prove whether the observed structure is fully intentional, but it shows that the channel produces a structured and adaptive communication output with significant public visibility. Its observed content distribution is broadly consistent with core wartime state priorities, but it remains sensitive to external agendas and reactive shifts in salience. A more deliberate balance between responsiveness and strategic continuity would strengthen the channel's role in supporting Ukraine's wartime objectives. This means preserving the dominance of public-interest communication, anchoring negotiation-related messaging in Ukraine-defined principles, and monitoring the proportional visibility of different frame families over time.

## CONCLUSIONS

This thesis examined how Volodymyr Zelenskyi's official Telegram communication framed the war across different phases of Russia's full-scale invasion and how these provisional frames were associated with platform-visible audience response on Telegram. The study addressed a specific analytical problem: despite Telegram's centrality in Ukraine's wartime information environment, there has been limited systematic evidence on how Zelenskyi's Telegram communication is structured over time, how its dominant meaning patterns change across phases of the full-scale invasion, and how these patterns relate to visible audience reactions on the platform.

The central conclusion is that Zelenskyi's Telegram communication should be understood as a structured and adaptive repertoire of wartime meaning-making rather than as a diffuse stream of updates. The channel does respond to ongoing military and diplomatic developments, but it does so through recurrent communicative patterns. Across the full period under analysis, the communication repeatedly foregrounds external support, internal mobilisation, civilian harm, military recognition, defence capability, diplomatic positioning, and pressure on Russia. These patterns are not random. They form a recognisable communicative architecture that remains present across the full-scale invasion, even as the relative salience of individual provisional frames changes over time.

In response to the first research question, the thesis found that Zelenskyi's Telegram communication is organised around a limited and interpretable set of recurring provisional frames. Using an LDA-eligible corpus of 5,871 predominantly Ukrainian-language posts from a full text-bearing population of 8,566 posts, the analysis identified a 15-topic solution as the best balance of statistical quality and substantive interpretability. These topics were not treated as full theoretical frames in a strict deductive sense. Instead, they were interpreted as provisional frames: empirically derived meaning clusters that approximate frames when validated through framing theory, lexical coherence, and substantive interpretation.

The most prevalent provisional frames show that the channel performs several stable wartime communication functions. It sustains international support by repeatedly foregrounding cooperation with partners, gratitude for assistance, and diplomatic engagement. It maintains internal mobilisation by emphasising national unity, collective endurance, memory, and the moral distinction between Ukrainian defence and Russian aggression. It also narrates military-political agency by highlighting defence capability, battlefield performance, recognition of military units, and Ukraine's continued ability to act under changing strategic conditions. In this sense, the thesis shows not only what topics appear in the channel, but what broader communicative functions they perform.

In response to the second research question, the thesis found that the prevalence of provisional frames changes across invasion phases. The key pattern is best described as adaptation within continuity. Core wartime functions persist throughout the period, but their hierarchy shifts with the strategic context. In the earliest phase of the full-scale invasion, communication is dominated by national unity, collective memory, and mobilisation under existential threat. In the middle phases, the channel gives greater prominence to international support, cooperation, and coalition maintenance. In the later phase, after the change in the U.S. administration on 20 January 2025, diplomatic conditionality and U.S.-centred negotiation dynamics become more visible. This phase-based finding is one of the main substantive contributions of the thesis. It shows that wartime leadership communication is neither fully stable nor purely episodic. It does not reinvent itself completely in each phase, but neither does it remain unchanged. Instead, it rebalances a persistent repertoire of provisional frames. This matters because it allows Zelenskyi's Telegram communication to be understood as continuous strategic meaning-making under changing conditions. The communication output is structured enough to be traced over time, but flexible enough to respond to shifts in the military, diplomatic, and political environment.

In response to the third research question, the thesis found that Telegram emoji reactions co-vary with provisional frames, but these results should be interpreted as supplementary platform-visible audience response rather than as evidence of public opinion, persuasion, or classical frame resonance. The reaction analysis shows that topic prevalence and reaction volume are substantially connected: the most visible communicative priorities in the channel also tend to attract a significant share of audience reactions. This suggests that the channel's core wartime frames are not only frequent in message supply, but also visible in audience response patterns.

At the same time, the relationship is not perfectly mechanical. Some topics receive stronger average reaction levels than their overall prevalence alone would suggest, particularly those connected to soldiers, military recognition, battlefield performance, and direct gratitude to defenders. Reaction composition also differs across topics. Posts about civilian harm are more associated with grief- and concern-oriented reactions, while diplomacy, gratitude, and military recognition tend to produce different reaction profiles. The value of the emoji analysis is therefore not that it measures audience attitudes directly. Its contribution is narrower: it shows that platform-visible audience response broadly follows the channel's main communicative priorities, while also revealing topic-specific differences in reaction intensity and composition.

The findings also support the theoretical expectations formulated in the analytical framework. First, the expectation that an unsupervised corpus-level mapping would recover a limited set of coherent and recurring meaning clusters is supported. The 15-

topic solution produced interpretable clusters that could be connected to framing functions, including problem definition, causal attribution, moral evaluation, treatment orientation, and motivational cues. This supports the use of provisional frames as a pragmatic bridge between computational topic modelling and framing theory.

Second, the expectation of phase-sensitive dynamics is supported. The analysis shows that provisional frames do not remain equally salient across the full-scale invasion. Their distribution changes across phases, but without eliminating the underlying wartime communication repertoire. This confirms that prolonged wartime leadership communication can be analysed as a process of changing salience within a stable frame architecture.

Third, the expectation that Telegram reactions would co-vary with provisional frames is also supported, but only within strict interpretive limits. Emoji reactions add a useful descriptive layer because they show how different types of messages are visibly responded to within Telegram's platform affordances. However, they do not explain why users reacted, whether the message changed their attitudes, or whether the frame achieved credibility, narrative fidelity, or mobilisation in the stronger theoretical sense. For this reason, the thesis treats reaction data as platform-visible behavioural feedback, not as frame resonance.

The thesis makes three main contributions. Substantively, it provides a systematic phase-based account of Zelenskyi's Telegram communication across nearly the full period of the full-scale invasion covered by the dataset. It shows that the President's Telegram channel is structured around a persistent repertoire of wartime meaning-making, with visible shifts in salience across phases. Methodologically, it demonstrates how LDA can be combined with interpretive framing analysis to map a large wartime corpus in a transparent and reproducible way, while avoiding the stronger claim that computational topics are automatically equivalent to frames. Platform-wise, it adds Telegram-specific evidence to a field still heavily shaped by X/Twitter-centred studies of political communication.

The findings also have practical implications. Since the President's Telegram channel functions as a high-reach state communication channel, its observable structure has policy relevance even if the internal intentions behind that structure cannot be directly proven. The study does not claim to know whether the distribution of topics was deliberately planned by Zelenskyi or his communication team. It analyses communication output, not internal decision-making. Nevertheless, the recurrence and phase-sensitive redistribution of provisional frames show that the channel has a stable communicative architecture. This means that it should be treated not only as a medium for responding to events, but also as a strategic state communication

instrument whose balance of themes can shape public orientation during a prolonged war.

At the same time, the thesis has clear limitations. First, LDA topics are proxies for theoretical frames, not frames in a strict deductive sense. The study therefore supports interpretive approximation and corpus-level mapping rather than definitive frame identification. Second, the Telegram dataset does not include exposure metrics such as views, which prevents the calculation of engagement rates. Third, emoji reactions are limited behavioural signals. They do not capture audience demographics, motivations, emotional states, or interpretation. Fourth, the study is a single-case analysis of Zelenskyi's official Telegram channel, so its findings support analytical generalisation to wartime leadership communication and platform-specific framing research, but not statistical generalisation to other leaders, countries, or platforms. Finally, the language-eligibility filter used for the LDA stage excludes some multilingual and non-Ukrainian posts, which improves topic coherence but limits the model's coverage of the channel's full multilingual variation.

These limitations define the scope of the conclusions rather than undermining them. The thesis can confidently describe the dominant topic architecture of Zelenskyi's Telegram communication, compare how this architecture changes across phases, and show how provisional frames are associated with platform-visible reaction patterns. It cannot prove communicative intent, measure persuasion, or infer public opinion from emoji reactions. These boundaries are central to the research design and should be preserved in any interpretation of the findings.

Overall, the thesis shows that Zelenskyi's Telegram communication during Russia's full-scale invasion is structured, recurrent, and adaptive. It is structured because it relies on a limited set of interpretable provisional frames. It is recurrent because these frames repeatedly perform core wartime functions: sustaining external support, maintaining mobilisation, narrating civilian harm, recognising military contribution, and asserting Ukrainian agency. It is adaptive because the relative salience of these frames changes across phases as the strategic environment evolves. Platform-visible audience response adds a supplementary layer by showing that Telegram reactions broadly correspond to the channel's main communicative priorities, while also varying by topic type and reaction composition.

The main contribution of the thesis is therefore both substantive and methodological. Substantively, it clarifies how the President of Ukraine's Telegram communication organised the meaning of the war over time. Methodologically, it shows how high-frequency wartime leadership communication can be systematically mapped through computational modelling, interpreted through framing theory, and compared across phases without overstating what the data can prove. The broader conclusion is that



wartime leadership communication on Telegram should be studied as a dynamic but patterned process of meaning-making embedded in a specific platform environment.

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## APPENDICES

### Appendix 1. Data processing and filtering log

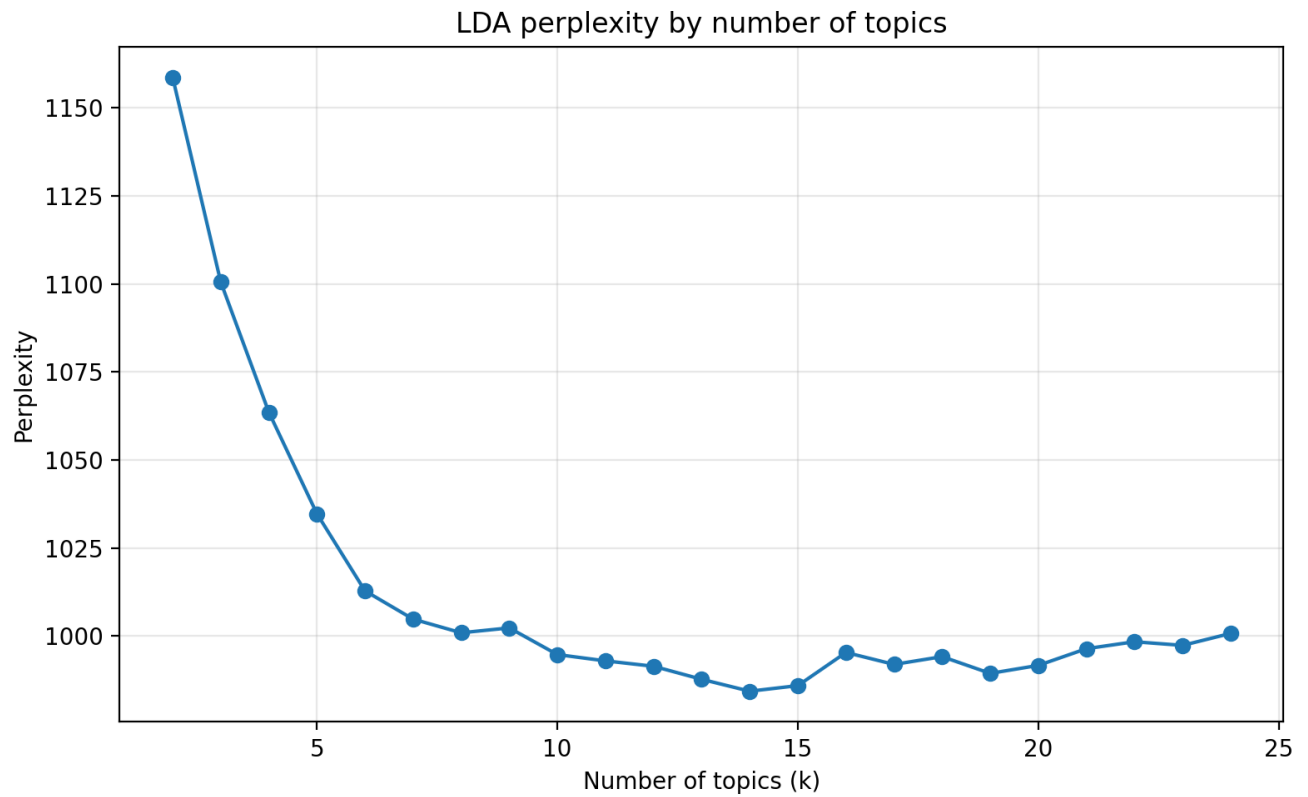
| Step | Input file                     | Operation                                                                | Output file                           | Posts retained | Notes                         |
|------|--------------------------------|--------------------------------------------------------------------------|---------------------------------------|----------------|-------------------------------|
| 1    | Telegram JSON export           | Raw export from Telegram                                                 | raw JSON folder/file                  | 17,354 entries | Full export before filtering  |
| 2    | JSON export                    | Convert JSON to CSV and filter date range 24.02.2022–31.12.2025          | posts_flat.csv and reactions_long.csv | 8,566          | Date-filtered dataset         |
| 3    | posts_flat.csv                 | Assign invasion phase                                                    | posts_phased.csv                      | 8,566          | Phase variable added          |
| 4    | posts_phased.csv               | Clean text: URLs, mentions, hashtags, lowercase, punctuation, whitespace | posts_text_cleaned.csv                | 8,566          | Cleaning log generated        |
| 5    | posts_text_cleaned.csv         | Tokenisation and lemmatisation with Stanza                               | posts_lemmatized_corrected.csv        | 8,566          | Lemmas and UPOS columns added |
| 6    | posts_lemmatized_corrected.csv | Prepare LDA tokens: UPOS, stopwords, min df, max df filtering            | posts_for_lda.csv                     | 5,871          | LDA-ready corpus              |
| 7    | posts_for_lda.csv              | LDA grid search k=2–24                                                   | lda_outputs/                          | 5,871          | k = 15 selected               |

### Appendix 2. LDA model metrics

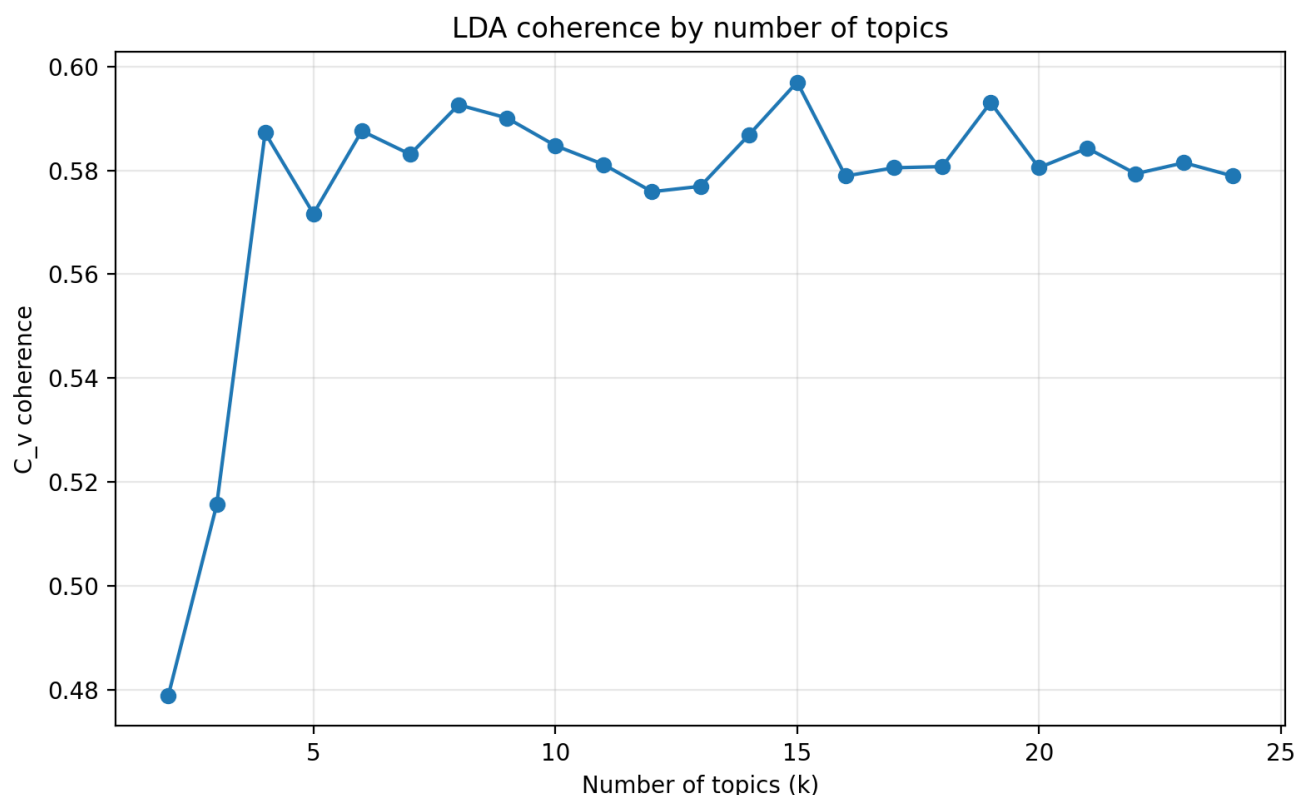
| Number of topics (k) | Log likelihood | Perplexity | Coherence (C <sub>v</sub> ) | Number of posts |
|----------------------|----------------|------------|-----------------------------|-----------------|
| 2                    | -2082083.2     | 1158.71077 | 0.47889244                  | 5,871           |
| 3                    | -2066886.1     | 1100.55322 | 0.51560919                  | 5,871           |
| 4                    | -2056792.9     | 1063.55034 | 0.58723552                  | 5,871           |
| 5                    | -2048677.1     | 1034.70092 | 0.57165344                  | 5,871           |
| 6                    | -2042356.7     | 1012.77692 | 0.5875869                   | 5,871           |
| 7                    | -2040010.8     | 1004.75858 | 0.5830949                   | 5,871           |

|    |            |            |            |       |
|----|------------|------------|------------|-------|
| 8  | -2038867.2 | 1000.87231 | 0.59262476 | 5,871 |
| 9  | -2039276.2 | 1002.26061 | 0.59009277 | 5,871 |
| 10 | -2037036.2 | 994.682117 | 0.58477355 | 5,871 |
| 11 | -2036504.7 | 992.892302 | 0.58113192 | 5,871 |
| 12 | -2036048.8 | 991.359678 | 0.57589147 | 5,871 |
| 13 | -2034944.1 | 987.655524 | 0.57692846 | 5,871 |
| 14 | -2033931.9 | 984.274114 | 0.58678525 | 5,871 |
| 15 | -2034407.6 | 985.861684 | 0.59699647 | 5,871 |
| 16 | -2037213.9 | 995.281084 | 0.57891067 | 5,871 |
| 17 | -2036205.4 | 991.885646 | 0.58049714 | 5,871 |
| 18 | -2036861.9 | 994.094754 | 0.58072778 | 5,871 |
| 19 | -2035447.3 | 989.340963 | 0.59306279 | 5,871 |
| 20 | -2036123.3 | 991.609922 | 0.58052185 | 5,871 |
| 21 | -2037533.4 | 996.359121 | 0.58427382 | 5,871 |
| 22 | -2038115.7 | 998.326953 | 0.57935456 | 5,871 |
| 23 | -2037810.4 | 997.294778 | 0.58146713 | 5,871 |
| 24 | -2038814.7 | 1000.69455 | 0.57893903 | 5,871 |

### Appendix 3. LDA perplexity plot



## Appendix 4. LDA coherence plot



## Appendix 5. Code and electronic replication package

The replication materials for this thesis are available in the GitHub repository:

<https://github.com/Pashundel/Zelenskyi-TG.git>

The repository contains the Python scripts, intermediate CSV files, LDA model outputs, and the Excel workbook used for descriptive aggregation of topic prevalence, topic-family shares, reaction volume, and reaction composition.

The table below summarises the main files and folders included in the repository and explains their role in the analysis.

| File / folder               | Description                                                                                                 | Use in the thesis                                                  |
|-----------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| scripts/                    | Python scripts used for data conversion, cleaning, lemmatisation, LDA corpus preparation, and LDA modelling | Reproduces the computational pipeline                              |
| csv_outputs/                | Intermediate and final CSV files generated during preprocessing                                             | Documents the transformation from raw export to analytical dataset |
| lda_outputs/lda_metrics.csv | Model-selection metrics for alternative topic numbers                                                       | Supports selection of the final k                                  |

|                                     |                                                                                               |                                                                  |
|-------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| lda_outputs/lda_coherence_plot.png  | C_v coherence by number of topics                                                             | Visual model-selection diagnostic                                |
| lda_outputs/lda_perplexity_plot.png | Perplexity by number of topics                                                                | Visual model-fit diagnostic                                      |
| lda_outputs/lda_topics_k15.csv      | Top terms and weights for each topic in the selected 15-topic model                           | Used to label and interpret topics as provisional frames         |
| lda_outputs/lda_doc_topics_k15.csv  | Topic proportions and dominant-topic assignment for each retained post                        | Used for topic prevalence and phase comparison                   |
| lda_outputs/lda_model_k*.joblib     | Saved trained LDA models for selected candidate k values                                      | Allows model reloading without retraining                        |
| lda_outputs/vectorizer_k*.joblib    | Saved fitted vectorizers for selected candidate k values                                      | Preserves the exact vocabulary used in each model                |
| lda_outputs/dtm_k*.npz              | Sparse document-term matrices for selected candidate k values                                 | Allows reuse of the exact model input matrix                     |
| lda_outputs/kept_idx_k*.pkl         | Retained row indices after minimum-token filtering                                            | Maps modelled documents back to source rows                      |
| lda_outputs/pyldavis_k*.html        | Interactive visualisations for selected candidate topic models                                | Used for interpretive inspection of topic separation and overlap |
| analysis_workbook.xlsx              | Excel workbook combining LDA outputs, phases, topic labels, topic families, and reaction data | Produces descriptive tables on prevalence and reactions          |
| results.json                        | Raw Telegram export containing the full corpus of Zelenskyi's Telegram channel.               | Allows reproduction of the full analytical pipeline.             |
| README.md                           | Repository guide                                                                              | Explains file structure and replication sequence                 |