

## **Analysis of Volodymyr Zelenskyy’s Telegram Posts by Means of Text Mining**

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**Abstract:** *This article analyses the posts the Ukrainian President Volodymyr Zelenskyy made in English on the Telegram channel “Zelenskiy / Official”, since the beginning of Russia’s full-scale invasion of Ukraine, 24 February 2022, and until 19 September 2022, using text mining software and techniques. The study analyses readability, lexical density, the most frequent terms, correlations, collocations, and common phrases. In terms of techniques, mind-mapping, trend analysis, network analysis, n-gram generation and topic modelling were used. The positioning of this real-time public discourse is relevant since the channel has one million individual subscribers from around the world. Furthermore, Zelenskyy has been qualified as a celebrity politician (Archer and Cawston), who also gained wide electoral support through his social media presence (Dorosh, Nocon and Zakaulova). It is even more relevant to analyse the English posts since it can be inferred that they debuted with the full-scale attacks of 2022 (since the creation of the channel on 30 July 2019, only three posts in English were made before 24 February 2022).*

**Keywords:** *Zelenskyy, discourse, social media, Telegram, emotional marketing, text mining, political communication*

### **Introduction**

The aim of this article is to analyse the Telegram posts of the Ukrainian president Volodymyr Zelenskyy which were retrieved from the channel “Zelenskiy / Official” in the period 24 February – 19 September 2022, by means of text mining. The hypothesis is that this method will reveal trends, consistencies, inconsistencies, and other useful information regarding this politician’s communication and political strategies.

Before we carry on with our analysis, it is necessary to discuss the context of this article, focusing on the political figure Volodymyr Zelenskyy, on the Russo-Ukrainian war and on the relevance of the Telegram posts in English. Further on, we will discuss the concepts which are needed in the analysis, such as new digital medias and technologies, emotional marketing and text mining. The following sections will present the methodology used, the results of the research and the conclusions.

Volodymyr Oleksandrovyich Zelenskyy (also Zelensky or Zelenskiy) is the sixth Ukrainian president, elected in 2019, when he defeated in the

second round the former president Petro Poroshenko. At the moment of the elections, Zelenskyy was widely known for his acting, having played the role of the Ukrainian president in the TV series “Servant of the People”, name later chosen for his political party.

Zelenskyy used his celebrity status to gain image capital in his ascent to power, like other celebrity politicians such as Donald Trump. In fact, there are several scientific papers comparing Zelenskyy to Trump in terms of political and communication strategies. For instance, Archer and Cawston analyse whether the epistemic power (the capacity to influence people’s beliefs) of celebrities such as Zelenskyy and Trump gives them political legitimacy in democratic politics, considering that they do not necessarily have political expertise (Archer and Cawston 33). The conclusion was that the mere fact that these celebrities have epistemic power gives them legitimacy and gives rise to democratic elitism, which is a means of bridging the epistemic divide between the elites and the masses. But this is not without risks, if the celebrities lack expertise and strive to maintain and increase image capital to the detriment of their political activity (Archer and Cawston 42).

Another parallel analysis between Trump and Zelenskyy was made by Dorosh, Nocon and Zakaulova, who compare the social media campaigns of the two presidents, which happened three years apart (Trump’s in 2016 and Zelenskyy’s in 2019). Their conclusion is that the common denominator of their successful campaigns was the large-scale use of internet communications (Dorosh, Nocon and Zakaulova), which played a considerable role in winning the elections.

The Russo-Ukrainian War debuted in February 2014, with Russia’s annexation of Ukraine’s Crimean Peninsula following Ukraine’s Revolution of Dignity. The Ukrainian president at that time, Viktor Yanukovich, had supported his country’s political and economic ties to Russia, to the detriment of a free trade agreement with the European Union, which started the Revolution of Dignity that culminated with his forceful removal from office. Subsequently, Russia annexed the Crimean Peninsula, this being the beginning of the conflict, which broke full-scale in February 2022, during Zelenskyy’s mandate.

As mentioned above, internet communications were widely used during Zelenskyy’s successful presidential campaign. The most prominent media used is Instagram, where Zelenskyy’s official channel amasses more than 17 million followers worldwide. After the beginning of the full-scale invasion, Zelenskyy’s office continued to post on social media, but also branched out to instant messaging. An example of this extension is the activation of the Telegram channel for worldwide communication. We can

draw this conclusion as the channel only featured three posts in English since its creation in July 2019 and until February 2022. After that, we could identify several types of posts: posts in Ukrainian, dedicated to his people, posts in English, dedicated to the wider audience worldwide, posts in two or more languages, intended for a wide audience but also targeted to specific audiences, and posts in other languages, targeted for specific nations. We chose to analyse the posts in English, which are intended for the international public.

New digital medias are technologies used to connect people, preponderantly young ones, by means of activities such as instant messaging, social networking and downloading and uploading content. The term generally refers to multimodal and interactive means of communication based on digitalization. They also combine mass media with interpersonal communication (Buzarna-Tihenea (Gălbează), *The Influence of New Media Tools in ESP Teaching: Case Study on Business English* 232). Therefore, it is no wonder that the new medias have become powerful tools in political communication.

These tools are even more powerful when used by celebrities. It can be argued that Zelenskyy, who was well known as an actor, won the presidency based on his epistemic power and not necessarily based on his expertise. As a celebrity, he had both credibility and the public's attention. It has also been theorized that his social media exposure led to him gaining political capital (Archer and Cawston 33; Dkhair and Klochko 64). Moreover, having a personalized media exposure, he was depicted as close to the people, as opposed to political elites, thus there being less of an 'epistemic divide' or gap between himself and the people (Archer and Cawston 43).

An analysis of social media interactions during the presidential campaign showed that although Petro Poroshenko's account was richer than Zelenskyy's in terms of the number of subscribers, messages and meaningful keywords, the balance was in the latter's favour. The main differences consisted in thematic content and in the instruments used, as Zelenskyy primarily based his campaign on the feelings, attitudes, and moods of the people (Tkachenko, Yanenko and Sydorenko 525).

Another study analysed the way Volodymyr Zelenskyy communicated the values he supported (patterns, verbs, metaphors etc.), and the relation between his intentions and these values. The reactions of the media and the public were also analysed, and the conclusion was that despite the media criticising his discourse as 'populist', the transmitted values "tend to reflect the European vector set by Ukraine as a dominant after the 2014

Revolution of Dignity” (Liubchenko, Miroshnychenko and Sirinyok-Dolgaryova 146).

Another relevant concept associated to the new medias is that of emotional marketing, that is a way to sell an idea based on the addressees’ feelings, their subconscious, while classical marketing is directed at reason. An analysis of Ukrainian politics concluded that it is polarised between positive associations such as attraction, theatricality and entertainment, on the one side, and fear on the other, and that emotions are a powerful tool to attune the people to the way information is perceived (Likarchuk, Andrieieva and Likarchuk 9). As this study shows, emotions influence the decision-making process by increasing attention (positive emotions, by focusing on abstract and general principles) or by narrowing it (negative emotions, by focusing on specific aspects of instability) and thus influencing people’s capacity to think. The degree of confidence underlying the emotion (e.g. High degree of confidence in anger and low degree in fear) is also essential (Likarchuk, Andrieieva and Likarchuk 10). As studies show, fear is a decisive emotion in politics, which may also play a crucial mobilising role, for instance in case of the fear of aggression (Likarchuk, Andrieieva and Likarchuk 15).

All these concepts come together to show the complexity of political rhetoric and the fact that, to influence the masses, there is need of emotional intelligence and charisma. The Russian military attacks pushed President Zelenskyy to also acquire a status of international celebrity and to seek international image capital. He does so through a variety of channels, but the one this article focuses on is that of his official Telegram channel. A simple search shows that before the attacks of 2022, there had only been three posts in English on “Zelenskiy / Official”. When the full-scale attacks began, the activity of the channel significantly increased, with several posts a day, some written in Ukrainian, some in English and some in the language of the counties whose leaders are the intended receivers of the message. While most of the messages are intended for Ukrainians, the ones in English target the world at large, thus these are the object of the analysis.

### **Methodology**

The article uses text mining software and techniques to analyse Zelenskyy’s discourse, in hopes of finding key information on how he positions himself to the world and how he uses emotional marketing and new technologies in his endeavours. We also argue that the Telegram posts have high documentary importance, as they document the developments of the war with regularity, like a logbook Intended for the whole world to see.

This study is limited to the Telegram content posted on the official channel between 24 February and 19 September 2022. Another limitation is that it does not describe or analyse all the multimedia information which comes with the text of the posts (images, videos, links), some of which are skilfully used to produce emotion, but which do not qualify for this type of analysis. Finally, it is a known fact that Mr Zelenskyy has a team of consultants who aid him in his discourse, but they build on and build up his image, there being a presumption that the direction of the posts is in tune with his political position. Moreover, we acknowledge that some the corpus and, implicitly, the results, might be specific to non-native speakers and their limitations in terms of command of the English language.

The first step of the analysis was to retrieve the Telegram (Zelenskyi/Official) posts and to remove any elements which would affect the analysis (e.g. Photos, videos, photo credits, photo sizes, dates and timestamps). The posts were treated as a single, cohesive document, since their small size and high number would not have led to any conclusive results otherwise. A document of 39,759 words was obtained.

The corpus was analysed first unedited and then in edited form. The editing was labour-intensive and done manually. It includes lower case conversion, punctuation removal, stemming (reduction to common root by removing or replacing affixes), lemmatization (replacement of inflected forms with the base form) and the removal of irrelevant frequent and rare words (Karpchuk and Yuskiv 124). Editing was necessary in order to correctly calculate trends, frequencies and links, while the use of inflected forms would have led to erroneous results.

The unedited corpus was then processed by means of a text mining tool (Voyant Tools), showing, among others, readability, lexical density, the most frequent terms, correlations, collocations, and common phrases, in order to better assess the text's pragmatics (Buzarna-Tihenea (Gálbează), *Text Analysis Tools in ESP Teaching. Case Study* 252). The corpus was treated as a collection of words (the Bag of Words). Two further processes were applied: a structural analysis of the vocabulary (quantization, collocation and connection analysis) and a thematic analysis. For correlations and trends, the edited version was used.

Text mining is a computer-aided process of analysing natural language by finding patterns and structuring the data in a way which aids interpretation. Text mining software identifies correlations, associations and patterns and frequencies and presents them in an organized or visual way, by means of tables, word clouds and other types of visualisation tools. Among other indices, such tools calculate the readability index, that is the degree of difficulty and complexity of a text based, among others, on syllable, word

and sentence lengths. The readability index is calculated based on the Coleman-Liau formula,  $CLI = 0.0588 * L - 0.296 * S - 15.8$ , where L and S represent the average number of letters and sentences per 100 words. The higher the readability index, the higher the complexity of the text.

Lexical density refers to the number of lexical words (nouns, verbs, adjectives etc.), which convey meaning, as opposed to grammatical items, from the total number of words, while lexical diversity refers to the ratio of unique words from a text, both being an indicator of readability. The expected lexical density of a written non-fiction text is between 40% and 65% (Buzarna-Tihenea (Gălbează), *Text Analysis Tools in ESP Teaching. Case Study* 257), while the lexical diversity is expected to be low (due to the language barrier and to the aim of reaching the masses).

The following were then analysed: the most common ten words, bigrams (sequences of two adjacent words), n-grams (collocations) and word correlations (frequency of words appearing together compared to their frequency of appearing separately), to identify connotations. If the ratio is below 0.3, there is little or no correlation, from 0.3 to 0.7, there is a weak correlation and from 0.7 to 1.0, there is a strong correlation. (Karpchuk and Yuskiv 126).

To identify hidden structures, topic modelling was used, based on a keyword result generated by the text analysis software. A limit of 10 content keywords per topic was implemented, after which the description of each sequence was done manually (Dkhair and Klochko 67-68).

## **Results and discussions**

The corpus consists of one document with 39,759 total words and 4,145 unique word forms. The average sentence length is 13.5 words. Each word is used on average 9.59 times, indicating a low lexical diversity. The readability index is 9.931, corresponding to high school level education. The vocabulary density is 0.104 (1 lexical item every 10 words) is lower than anticipated. This shows a concentration on keywords and may also be specific to non-native speakers. These results are consistent with the assumption that the texts are adapted to be understood by people with an average level of instruction.

The most frequent words in the corpus are: Ukraine (682), Russia (468), people (239), war (205), world (191), state (188), Europe (154), country (153), day (134), defend (145), support (125), occupy (116), today (107), freedom (102), terror (96), fight (95), region (78), grateful (78), victory (75), thank (75), peace (73), city (73), important (71), territory (69), time (65), secure (64), need (64), life (63), nation (61), weapon (60), live (60), land (60), missile (59), know (59), destroy (58), help (57), continue



<b>Term</b>	<b>Collocate</b>	<b>Count (context)</b>
ukraine	war	258
ukraine	world	235
world	ukraine	232
ukraine	state	223
state	ukraine	220
russia	world	213
world	russia	212
defend	ukraine	211
russia	war	208
ukraine	defend	207
war	russia	201
ukraine	europe	198
russia	state	197
europe	ukraine	197
state	russia	188
day	ukraine	187
ukraine	day	178
russia	terror	175
ukraine	country	173
country	ukraine	173
ukraine	support	157
people	russia	157
russia	people	156
russia	europe	149
europe	russia	149
ukraine	freedom	145
ukraine	today	139
ukraine	fight	136
country	russia	133
russia	country	132
ukraine	occupy	127
people	people	122
ukraine	thank	121
ukraine	victory	118
europe	europe	116
ukraine	peace	102
ukraine	territory	101



Term	Collocate	Count (context)
ukraine	nation	100

The dominant lexemes and their relationships (correlations, phrases) were further analysed, leading to the same conclusion. The network analysis shows links between Ukraine and people, support, war, land and flag, whereas Russia is most commonly related to army, war, military, state and sanctions. A simplified representation of the most common words and the relationship between them is presented below.

Figure 2 – Representation of the links between the most common terms (generated with Voyant Tools)



The analysis of phrases did not yield relevant results content wise, but it did point out some mannerisms consisting in a propensity for using expressions such as ‘for the sake of’ (9), ‘as much as possible’ (7), ‘and all other’ (5), ‘I am sure that’ (5) and ‘only one thing’ (5), as shown in table 2.

Table 2 – The most frequent phrases (generated with Voyant Tools)

Freq.	Length	Phrase
9	4	for the sake of
7	4	as much as possible
6	3	air defense systems

<b>Freq.</b>	<b>Length</b>	<b>Phrase</b>
5	3	and all other
5	3	and they will
5	4	at the zaporizhzhia npp
5	4	i am sure that
5	4	in support of ukraine
5	3	only one thing
5	3	since february 24
5	3	the czech republic
5	4	the victory of ukraine

In the following table, the phrases were organized based on length. The repetition of lengthy phrases shows a tendency to recycle older material, but only once. This could be for ease of writing or a strategy to ensure a certain periodicity of the posts and to keep the more important posts on top. The table below shows the lengthiest phrases used throughout the corpus and their frequency.

*Table 3 – The lengthiest phrases (generated with Voyant Tools)*

<b>Freq.</b>	<b>Length</b>	<b>Phrase</b>
2	18	but we have not forgotten and will not forget any of our cities and any of our people
2	13	i held a meeting of the staff of the supreme commander in chief
2	10	russia must be recognized as a state sponsor of terrorism
2	10	no matter how they try to break our morale we
3	9	president of the european commission ursula von der leyen
2	9	it is only a matter of time before all
2	9	i am grateful to the defense intelligence of ukraine
2	9	eternal memory to all those whose lives were taken
2	9	defending the interests of ukraine in the international arena
2	8	you can make a donation in one click
2	8	we have no doubt that we will win
2	8	we endured much more than the enemy expected
2	8	to kyiv this is the first visit of
2	8	the sooner we will be able to end
2	8	the second summit of first ladies and gentlemen
2	8	it is from this point of view that
2	8	a crime from the point of view of
2	7	words of the hero played by chaplin

Freq.	Length	Phrase
2	7	will do everything to ensure that the
2	7	we know what we are fighting for
2	7	we are fighting for a new victory
2	7	ukraine i am grateful to everyone who
2	7	there are no and will never be
2	7	the situation in donbas remains very difficult
2	7	the armed forces of ukraine our intelligence
2	7	thank you for everything you do for
2	7	russia as a state sponsor of terrorism
2	7	reduce the severity of the food crisis
2	7	on the front line and in the
2	7	not a question of one or another
3	7	it is a choice in favor of
2	7	inflict the greatest possible losses on the
2	7	in the south of our country and
2	7	i am grateful to everyone who defends
2	7	help save the lives of thousands of
2	7	glad to see you on ukrainian land
2	7	former nato secretary general anders fogh rasmussen
2	7	commander in chief of the armed forces
2	7	and i am grateful to the united
2	7	and i am grateful to everyone who
2	7	addressed the politicians and the people of

Figure 3 – trend analysis (generated with Voyant Tools)



In terms of trends, analysing the behaviour of the five most common terms, we can observe that the words ‘Ukraine’ leads in frequency across all ten conventional segments of the text, which is expected. However, there has been a change in paradigm starting from the eighth segment: while the words ‘Russia’ and ‘war’ decreased in frequency, the use of the word ‘Ukraine’ increased. One can only speculate on the root cause of such a change. It could be a means to stimulate empathy and to keep the focus on Ukraine or a refrain from commenting Russia in view of negotiations or of the escalating conflict.

Voyant Tools was used for the automatic structural analysis of the topics and came up with a list of seven multi-thematic topics with ten most probable words for each of the topic. However, there was need for human interpretation of the topics, as they were organized based on the most probable words and not necessarily on the most relevant ones. The seven identified topics are:

- Appeal to stop the war and warning about the nuclear and energy threat: new, military, terror, destroy, nuclear, end, plant, way, strong, Zaporizhzhia;
- Appeal to fight and defend: Ukraine, people, world, country, defense, time, free, Kharkiv, know, united;
- Appeal for soft support: state, Ukrainians, peace, win, possible, fight, missiles, partners, definitely, really;
- Recognition of support: war, Russia, Russian, freedom, day, Europe, people, European, help, cities;
- Presentation of victories: Ukraine, Ukrainian, Russian, occupiers, today, support, grateful, world, victory, region;
- Appeal for hard support: thank, important, forces, make, armed, power, great, necessary, situation, thanks;
- Presentation of the horrors of the war: security, army, weapons, terrorist, Kyiv, global, struggle, destroyed, entire, crimes.

These topics can further be dissected and organized based on relevance (e.g. Always relevant, temporarily relevant or propagandistic), but they are all meant to stimulate strong emotions in support of the Ukrainian cause and against the Russian descent upon Ukraine.

## **Conclusions**

The text mining method did point out relevant aspects of Zelenskyy’s discourse, but it did not replace the human factor, there was still need for further interpretation of the data. Another interesting aspect observed during

the analysis is that frequency is not indissolubly and directly connected to the relevance of the message. Frequent lexical words may not convey the important message and sometimes the message is formulated in a politically correct or restrained manner a simple analysis of words and their connections cannot correctly represent.

In terms of emotional marketing strategies, there is a clear emphasis on positive emotions such as hope, gratitude, solidarity as opposed to fear. Positive images of Ukraine are considerably higher in frequency than the negative depictions of the ‘occupiers’.

There is a clear restraint on the discourse: the enemy is presented as an abstract entity, while Zelenskyy’s supporters, partners and collaborators are dutifully mentioned. There is, however, an evolution from the paradigm of abstract war to that of the concrete occupiers. Direct accusations toward specific people are still avoided (for example, Putin’s name only appears in one post).

It is obvious that the posts are more than just appeals for peace, for support, for the end of the war. They are more like an open diary or a captain’s logbook holding documentary evidence of the developments of the military conflict, with clear documentary value in the future.

## **Works Cited**

- Archer, Alfred and Amanda Cawston. “Celebrity Politics and Democratic Elitism.” *TOPOI-An International Review Of Philosophy* 41.1 Special Issue (2022): 33-43.
- Buzarna-Tihenea (Gâlbează), Alina. “Text Analysis Tools in ESP Teaching. Case Study.” *“Ovidius” University Annals, Economic Sciences Series* XX.2 (2022): 252-258.
- . “The Influence of New Media Tools in ESP Teaching: Case Study on Business English.” *“Ovidius” University Annals, Economic Sciences Series* XIX.2 (2019): 231-236.
- Dkhair, Katrin and Polina Klochko. “Zelensky’s Image in the Russian and Ukrainian News: Presidential Campaign 2019 in Ukraine.” *Central European Journal of Communication* 1.28 (2021).
- Dorosh, Lesia, Jaroslaw Nocon and Yuliya Zakaulova. “Social Networks in Electoral Campaigns: a Comparative Analysis of the Cases of Donald Trump (USA) and Volodymyr Zelensky (Ukraine).” *European Journal of Transformation Studies* 9.2 (2021): 52-71.

- Karpchuk, Nataliia and Bohdan Yuskiv. “Dominating Concepts of Russian Federation Propaganda Against Ukraine (Content and Collocation Analyses of Russia Today).” *Politologija* 102.2 (2021): 116-152.
- Likarchuk, Nataliia, et al. “Impression Marketing as a Tool for Building Emotional Connections in the Public Administration Sphere.” *Studies in Media and Communication* 10.1 (2022): 9-16. <<https://doi.org/10.11114/smc.v10i1.5463>>.
- Liubchenko, Y., et al. “Political Communication in the Post-Truth Era: Mind Mapping Values of Ukraine’s Volodymyr Zelensky.” *Communication Today* 12.2 (2021): 146-167.
- Tkachenko, O., et al. “Marketing communications in election campaigns.” *International Journal of Advanced Research in Engineering and Technology* 11.6 (2020): 525-533.
- Voyant Tools. *Voyant Tools*. N.d. <<https://voyant-tools.org/>>.
- Zelenskyi/ Official. *Zelenskyi/ Official*. 19 09 2022. <[https://t.me/V\\_Zelenskiy\\_official](https://t.me/V_Zelenskiy_official)>.