Desk Analysis of Crisis Communication by Public Authorities During Health Crises

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Abstract: Communication by public authorities during a crisis is an important and essential part of responding to situations that can endanger lives and property. Social media platforms, identified as the main source of news according to research, provide a significant opportunity for communication. Media outlets played a crucial role during the COVID-19 pandemic, with Facebook continuing to lead as a news source compared to other social media platforms. This study analyzes the posts from the official Facebook profile "Koronavirus.hr," which serves as the government's official page for COVID-19 information in the Republic of Croatia. Using a desk analysis method, the study examines the content of the posts across four pandemic waves, considering the number of cases, post size, type of visual/video content, and social reactions. The analysis reveals that the average post size is approximately 37 words, with the most common length being 51 words. The posts predominantly feature general visual/video materials, with an average video duration of around 50.40 minutes. Social reactions to posts about the number of new cases have an average count of 38.18 per post, with an average of 5.61 comments and 1.55 shares. The correlation analysis shows a statistically significant positive correlation between the number of new cases reported in a post and the total number of comments and shares. Additionally, there are statistically significant positive correlations between post size (word count) and the total number of reactions, comments, and shares. However, further analysis reveals a lack of a statistically significant relationship between post size (word count) and the total number of reactions. This study provides guidelines for the future creation of posts by public authorities on social media during crisis situations and opens the way for further research in the field of communication strategies.

Keywords: Crisis communication, Health crises, Communication strategies, Social media, COVID 19

Introduction

In the modern age, fast and effective communication during crisis situations is a crucial factor in preserving safety and public trust. Crisis communication is a scientific and practical discipline that deals with strategies and tactics for managing communication during life-threatening situations (Plenković, 2015). It pertains to the strategies and tactics that public authorities employ to manage communication during situations that endanger lives and property. With the development of mass communication, particularly electronic media, social and individual identities have become more interconnected than ever before, influencing the organization of society and individuals (Bošnjak, 1998). This revolution in science and technology deeply transforms our way of life, affecting our knowledge, needs, and cultural creation in new ways (Božilović & Petković, 2015). New technologies facilitate the mass exchange of information and change the way materials and knowledge are shared. However, despite the progress, the communication and media industries still dominate public and private spaces, raising new questions about ethics and quality decision-making (Eid, 2014). In the context of technological development, interactive health communication applications have great potential for improving health, but they can also cause harm. Physicians and other healthcare professionals should promote and participate in the evidence-based development of interactive health communication applications, supporting efforts to assess their safety, quality, and usefulness (Robinson et al., 1998; Henderson et al., 1999). Alongside technological advancements, social media has become ubiquitous and has a significant impact on our daily

lives. However, when it comes to healthcare, there is a particular challenge to using social media for professional communication among healthcare professionals. Stevanović and Pristaš emphasize that professional communication among healthcare professionals through social networking is less applicable due to the protection of personal identity and data (Stevanović & Pristaš, 2011.).

Social media has shown usefulness for communication about crisis situations and risks at the individual, organizational, and official levels (Day et al., 2019). They have various advantages, such as reaching a wide audience, low costs, fast communication, and easy updating, but there are risks related to misinformation and maintaining patient privacy (Mayer et al., 2018). We are increasingly recognizing the importance of communication for healing and the impact it can have on the course of illness. Empirical research confirms that the mind and body are closely connected, and the social context has important implications for health (Thomas, 2006). Therefore, health communication becomes a key research topic as anyone facing a serious illness or having a loved one struggling with a life-threatening or terminal illness comes into contact with healthcare professionals or encounters health messages in the media (Ellingson, 2002). Social media, like other forms of mass media, have a significant influence on public awareness and knowledge. Public health campaigns often rely on mass media to convey information and increase awareness, although behavior change is often achieved to a lesser extent (Catalán-Matamoros, 2011). A well-designed public approach, which includes competence, security, anticipation, knowledge, creativity, and personal strength, is crucial for successful public opinion action (Marković, 2008, p. 75). Ganis and Kohirkar emphasize that social media has become a two-way street that allows users to express their opinions and communicate at speeds unimaginable with traditional media. The popularity of social media continues to grow exponentially (Ganis & Kohirkar, 2015).

Effective media communication is a crucial element in managing emergencies and crises. Communication by public authorities during a crisis is essential in responding to situations that can endanger lives and property, and social media provide a unique opportunity for communication (Tabbaa, 2010; Quinn, 2018). Timely and accurate communication can reduce panic, improve risk perception, and foster trust in institutions. The COVID-19 pandemic has further emphasized the importance of media communication in crisis situations, and social media have proven to be effective in risk management and public mobilization through the dissemination of relevant information (Sezgin et al., 2020).

Based on previous research that has demonstrated the role and importance of social media in health crisis situations, as well as examples of research conducted in Croatia to provide context and significance, the aim of this study is to analyze the effectiveness of crisis communication by public authorities through the use of a social media platform, specifically the official Facebook profile, during the COVID-19 pandemic. The main focus is on the connection between the news posts published on the official Government profile and social reactions. This research seeks to provide a foundation for future creation of posts by public authorities on social media in similar crisis scenarios.

Crisis Communication in Croatian Healthcare

The importance of monitoring the trend in communication technology development from a healthcare perspective has been supported by scientific research. In addition to global technological and communication changes, it is necessary to note that Croatia has also experienced significant social changes after the dissolution of Yugoslavia in the 1990s. In a study on the impact of propaganda on journalism in crisis situations, Laiho states that electronic media and the press were strictly controlled by the ruling structures in all socialist Yugoslav countries (Laiho, 2008). The influence of media control in recent history can negatively affect public trust in the media, media literacy, and understanding the role of the media in crisis situations.

Further literature reviews and research focus on examples of communication in Croatian healthcare. Within the healthcare system in Croatia, there are various challenges associated with contemporary social development, such as transitional difficulties and the impact of modern information technologies (Zrinščak, 2007). Changes in the healthcare system require the active participation of healthcare personnel, the acquisition of new knowledge, and the application of information and communication technologies (Kern, 2014). The results of research conducted among healthcare professionals and non-healthcare staff indicate differences in the use of health-related knowledge sources, with healthcare professionals more inclined to rely on professional sources, while non-healthcare staff more commonly use informal sources of information (Grčić et al., 2014). The Baxter affair in October 2011, in which dialyzers caused the deaths of 24 people, highlighted the lack of communication in healthcare, both horizontally (between healthcare institutions) and vertically (between institutions and ministries). Vuletić states, "Given that the Baxter affair was a typical example of a crisis situation, which clearly

demonstrated the realization that healthcare professionals do not know enough, in fact, they know very little about crisis communication (both internal and external), ..." (Vuletić, 2014, p. 23). Interestingly, considering the widespread use of social media over the years, Vujević notes in his work that "No scientific study has been conducted in Croatia describing the impact of social media on the professionalism of physicians, possible dangers they may encounter, or any guidelines to guide them in the use of these highly popular platforms to help them maintain their professional reputation, which is essential for their future work with patients" (Vujević, 2018). The lack of strategic and effective communication by healthcare institutions with the public is also emphasized, as concluded in a 2019 study on public relations in healthcare institutions in Croatia by Duljaj, who states, "The public relations profession is well-developed and known in Croatia, yet many organizations fail to recognize the benefits of its use. Some of these organizations are healthcare institutions that struggle or refuse to recognize the importance of good public relations" (Duljaj, 2019, p. 39).

Method

For this research, a desk analysis of the official Facebook profile "Koronavirus.hr" was conducted as an example of communication by public authorities in Croatia. Facebook's social media platform was chosen because "Facebook continues to lead as a news source compared to other social media platforms," and in the Croatian context, Facebook also holds a high position as a news source (Vozab & Peruško, 2021). A retrospective analysis was performed on all posts from the "Koronavirus.hr" Facebook profile across four COVID-19 pandemic waves. For further analysis, all posts providing information about the number of new cases were selected using an analytical matrix. Posts related to the number of new cases were chosen because they represented a constant factor across the four pandemic waves. Within each wave, posts from the week at the beginning of the wave, the week at the peak with the highest number of new cases, and the week towards the end of the wave were analyzed. Data on the number of new cases was retrieved from the Koronavirus.hr website, updated daily, and sourced from Our World in Data (ourworldindata.org) as of February 12, 2022, which is considered relevant data on the official government website Koronavirus.hr (Koronavirus.hr, 2022). The unit of analysis includes individual media posts. The analytical matrix is based on sentiment analysis research and consists of a total of 12 segments. The content analysis method was used to determine the representation and connections between categories within the unit of analysis, including the date of news posts, the number of new cases, the size of the post (number of words), the duration of videos (in minutes), the content of visual/video materials, the total number of rapid reactions, the total number of comments, the total number of shares, and the author's response to comments.

Microsoft Excel was used for the statistical analysis of the collected data. Various statistical methods were applied to obtain a detailed analysis of the collected data. Descriptive methods such as mean, standard deviation, and percentage were first used to describe the basic characteristics of the data set. These methods allow for the identification of the central tendency, the dispersion of values, and the proportion of individual categories in the data. To investigate relationships between different variables, correlation methods were applied. Due to the non-normal distribution of the data, Spearman's rank correlation test was chosen for further analysis of relationships and correlations with other variables. Significance tests were also conducted to verify the statistical significance of differences or relationships in the data. For this purpose, Mann-Whitney U tests were used to compare independent samples. All statistical analyses were performed using the functions and tools available in Microsoft Excel. These methods enable obtaining quantitative results and statistical conclusions based on the collected data.

Limitation

It is important to note that this methodology is based on the content analysis of a single Facebook profile, which may have its limitations. Data obtained from a single source may not necessarily represent the entire picture of public authorities' communication, and further research is needed to obtain a comprehensive understanding of their communication. The research is based on the analysis of content on Facebook, the primary social media platform. However, it should be noted that there are many other social media platforms and channels that also play a role in public authorities' communication. Similarly, the research focuses on analyzing posts during the four pandemic waves. As the situation may evolve over time, the research findings may be relevant only for that specific time period. Although desk analysis and statistical data processing were utilized, depending on the selected categories and analytical methods, it is possible that some important aspects or relationships between variables were not thoroughly explored. The limitations of the research may stem from the specific conditions and context of Croatia, and the results may not necessarily be generalizable to other countries or situations.

Results and Discussion

In this chapter, we present the results of research conducted on the official Facebook profile "Koronavirus.hr". The retrospective analysis included four pandemic waves, with a focus on posts providing information about the number of new cases. During the observed period, a total of 300 posts on the Facebook profile "Koronavirus.hr" were analyzed (n=300). It was found that posts about the number of cases or new cases were present in all four pandemic waves (n=91), indicating their consistency and importance in the communication of public authorities, thus being selected for further analysis. However, in the first observed period, out of the total number of observed posts (n=8), the majority of posts (n=7) were about the total number of cases (with an average total number of cases of 261.25 individuals), without information about the number of new cases, while all subsequent posts addressed the number of new cases. For the purpose of further analysis and data accuracy, only one post addressing the number of new cases was analyzed in the first observed period, resulting in a total of 84 posts related to the number of new cases, which constitutes 28% of the total number of posts (n=300).

For the analysis of the results, an analytical matrix was applied to a total of 84 posts, on which the results of this study were based. The analyzed sample of 84 posts is relatively large. A larger sample can provide more reliable results as it encompasses a greater number of posts and reduces the likelihood of random variations. A confidence level of 95% suggests that the obtained results can generally be applied to the population from which the samples were drawn with 95% confidence. This means that there is a high probability that the results are representative of the entire population of posts on the topic of the number of new cases on the social media platform. It is important to have a sufficiently representative sample in order to draw conclusions about the overall population. Considering the sample size and a confidence level of 95%, it can be considered that the obtained results are reliable and generalizable to the population of posts on the topic of the number of new cases on the social media platform.

Table 1. Analyzed posts in observed periods

Period	Total Number of Posts	Number of Posts about New Cases	Percentage of Posts about New Cases	Average Number of New Cases
17.03.2020. – 24.03.2020.	69	1	1,45%	21
30.03.2020. – 05.04.2020.	72	5	6,94%	73,2
01.06.2020. – 07.06.2020.	28	7	25,00%	0,14
08.06.2020. – 14.06.2020.	21	7	33,33%	0,71
07.12.2020. – 13.12.2020.	9	7	77,78%	3647,57
22.02.2021. – 28.02.2021.	13	8	61,54%	464,5
01.03.2021. – 07.03.2021.	16	10	62,50%	496,9
05.04.2021. – 11.04.2021.	13	8	61,54%	1886,1
21.06.2021. – 27.06.2021.	19	8	42,11%	74,6
28.06.2021. – 04.07.2021.	23	8	34,78%	84,6
08.11.2021. – 14.11.2021.	10	8	80,00%	5484,2
20.12.2021. – 26.12.2021.	7	7	100,00%	2555,7

Table 1 presents the results of the study regarding the number of posts about new cases on the observed Facebook profile during the defined time periods. The table includes data on the total number of posts, the number of posts about new cases, the percentage of those posts in the total number of posts, and the average number of new cases mentioned in those posts for each period. The data in the table provides statistics on the number of posts related to new cases during specific time periods. It can be observed that the percentage of posts about new cases varied across different periods. For example, in some periods, the percentage was very

low (e.g., 1.45%), while in others, it was significantly higher or even the only type of post (e.g., 100%). The average number of new cases mentioned in the posts also varies from period to period.

The results of the analysis of the total number of posts on the "Koronavirus.hr" Facebook profile, regardless of their topic, are presented in Table 1. In the 12 observed time periods, the total number of posts was 300, with a range of values from 7 to 72. The mean value indicates an average of 25 posts, which means that, on average, the "Koronavirus.hr" profile posted 25 times during each observed period, providing insights into the overall rhythm and activity of the profile. The variability in the number of posts is quite high, as reflected by the standard deviation of 22.12, suggesting that the profile's activity varied throughout different periods. Some periods had a higher number of posts (e.g., March 30, 2020, to April 5, 2020), while others had a lower number of posts (e.g., December 20, 2021, to December 26, 2021).

Out of the total number of posts, 84 were related to the number of new cases, with a range of values from 1 to 10. The mean number of posts about the number of new cases was 7, indicating regularity and frequency in addressing this specific topic. The standard deviation was 2.22, suggesting lower variability in the number of posts related to this topic and indicating consistent reporting of the number of new cases throughout different periods. Some periods had a high proportion of posts about the number of new cases compared to the total number of posts, such as December 7, 2020, to December 13, 2020, with a proportion of 77.78%. On the other hand, some periods had a lower proportion of posts about the number of new cases, such as June 1, 2020, to June 7, 2020, with a proportion of 25.00%. The average number of new cases also varied across different time periods. In some periods, like November 8, 2021, to November 14, 2021, the average number of new cases was very high (5484.2), while in others, like June 1, 2020, to June 7, 2020, it was very low (0.14). A graphic representation of the total number of posts and the number of posts about the number of new cases during the observed periods is illustrated in Figure 1.
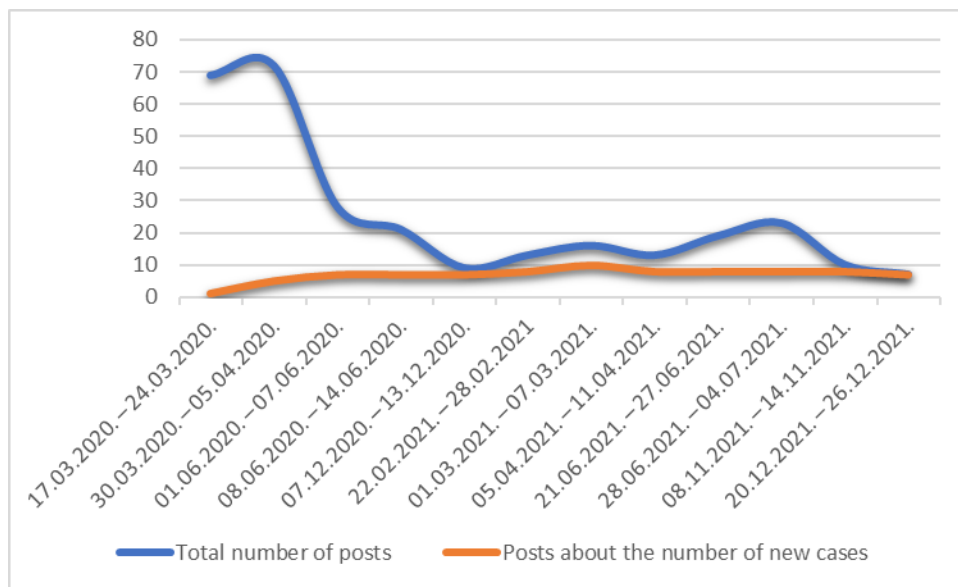

Figure 1. Posts in observed periods

The data for the total number of posts (D = 0.288) and the number of posts about the number of new cases (D = 0.333), based on the Kolmogorov-Smirnov (K-S) test, indicated a normal distribution of the data. The results of the correlation analysis showed that there is a statistically significant negative correlation between the total number of publications and the number of publications on the number of new cases (r = -.801, p < .001). The negative correlation indicates that as the total number of posts increases, the number of posts about the number of new cases tends to decrease, and vice versa. In other words, when the total number of posts is higher, the number of posts about the number of new cases is lower, and vice versa. This may indicate that the "Koronavirus.hr" profile focused on other topics or aspects of the pandemic during certain periods rather than solely on the number of new cases. The conceptual analysis of posts about the number of new cases provides insights into the characteristics of textual posts, types of visual/video materials, and video duration on the topic of the number of new cases on the social network.

First, the textual characteristics of the posts were examined. The average post size is approximately 37 words, with a standard deviation of 21, indicating variability in post length. The range of post values is from 0 to 69,

meaning that there are posts without text as well as several longer posts. The mode and median post length is 51 words, which suggests that this length is the most common and occurs 22 times in the analyzed posts.

The visual/video materials in the posts were also analyzed. Visual/video materials were present in every post, but they varied in content. The content of visual/video materials was divided into four categories. The results of the analysis of visual content show the frequency of using specific types of visual/video materials in published articles. For example, the most commonly used type of material is "General visual/video material," with a total of 51 posts, while the least used type is "Face (person) of one of the participants in the feature," with only 2 posts. The results of the analysis are presented in Figure 2.
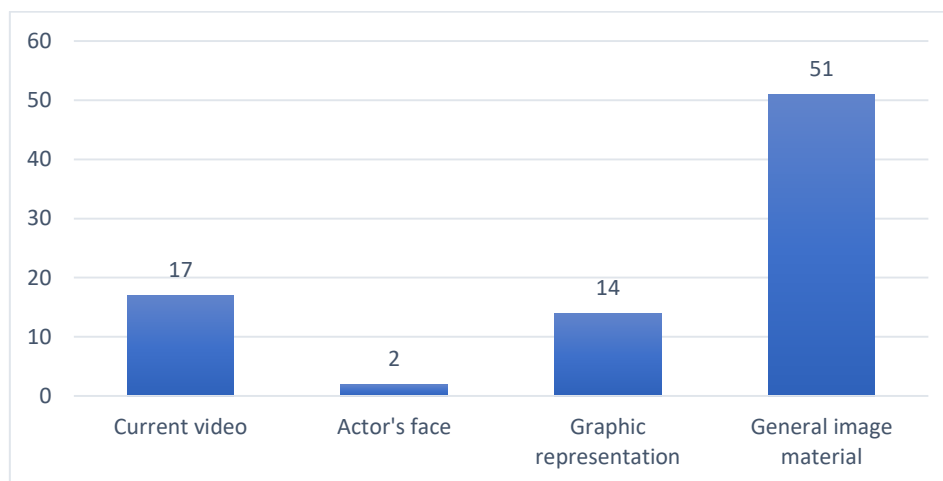

Figure 2. Types of visual/video content in posts

Additionally, an analysis of video durations was conducted. The research found that the average video duration based on the analyzed data is approximately 50.40 minutes. To obtain the average duration, each video was converted to minutes by adding the seconds divided by 60. A total of 17 videos were analyzed, and their durations were summed to obtain the overall duration of all videos, which amounted to 856.82 minutes. The average video duration is obtained by dividing the total duration by the total number of videos. Therefore, if we divide 856.82 minutes into 17 videos, the average duration is 50.40 minutes.

Table 2. Statistical measures for social reactions, comments, and shares

	Social reactions	*Comments*	*Shares*
M	38.18	5.61	1.55
SE	3.53	0.63	0.16
Md	27	5	1
Mo	6	5	1
SD	32.36	5.81	1.51
S^2	1047.45	33.78	2.27
K	3.23	2.83	2.93
Sk	1.73	1.77	1.37
R	151	25	8
Min	4	0	0
Max	155	25	8
Σ	3207	471	130
N	84	84	84
Largest (1)	155	25	8
Smallest (1)	4	0	0
CL (95,0%)	7.02	1.26	0.33

The analysis also examined the social reactions, comments, and shares in posts about the number of new cases (Table 2). In the analyzed posts, the total number of reactions is 3,207, with an average value of 38.18 reactions per post. The median is 27, and the mode is 6, indicating variability and the presence of several extremely high values. The range of reactions ranges from 4 to 155. Regarding comments, the total number is 471, with an average value of 5.61 comments per post. The median is 5, and the mode is also 5. In terms of shares, the total

number is 130, with an average value of 1.55 shares per post. The median is 1, and the mode is also 1. The accuracy of the estimated average values of reactions, comments, and shares is confirmed by 95% confidence intervals. The data indicate variability and asymmetry in the distribution, with several extremely high values.

Two distribution tests were conducted to analyze the data on the total number of new cases and the size of posts on the Facebook social network. The results of the Kolmogorov-Smirnov (K-S) tests confirmed that the data is not normally distributed for both variables (see Table 3). The distribution test for the total number of new cases yielded a test statistic value (D) of 0.31016 with a p-value less than 0.00001, while the distribution test for the size of posts had a test statistic value (D) of 0.31462 with a p-value less than 0.00001. Based on these results, it can be concluded that the data on the total number of new cases and the size of posts are not normally distributed. Therefore, for further analysis of relationships and correlations with other variables, the Spearman's Rho correlation test was chosen.

Table 3. Kolmogorov-Smirnov Test: New cases and post size

Variable	N	M	Md	Sd	Sk	Kt	K-S Test Statistic (D)	p-value
Total number of new cases	84	1342.12	349.5	1965.12	1.55	1.37	0.31	< 0.00001
Size of posts	84	37.06	51	21.11	-0.46	-1.52	0.31	< 0.00001

Table 4 displays the results of the Spearman's Rho correlation test between the variable "Number of new cases published in the post" and other variables (Total number of reactions, Total number of comments, Number of post shares).

Table 4. Spearman's rho correlation test for new cases posts

	X Ranks [Number of new cases published in the post]	Y Ranks [Total number of reactions]	Y Ranks [Total number of comments]	Y Ranks [Number of post shares]
Mean	42.5	42.5	42.5	42.5
SD	24.37	24.38	24.26	23.66
Combined	Combined	Combined	Combined	Combined
Covariance	-	114.73	261.42	250.17
R	-	0.193	0.442	0.434
rs	-	0.19307	0.4422	0.43382
p (2-tailed)	-	0.07847	3.00E-05	4.00E-05

The Table 4 presents the correlation coefficients (Rho) between the variable "Number of new cases published in the post" and the other two variables (Total number of reactions, Total number of comments, Number of post shares), along with the p-values. Based on the p-values, the correlation between the number of new cases published in the post and the total number of reactions is statistically insignificant, indicating that there is not enough evidence to support a significant relationship between the number of new cases published in the post and the number of reactions received. However, there are statistically significant positive correlations between the number of new cases and the total number of comments and post shares, indicating higher new case numbers tend to generate more engagement in terms of comments and shares.

Similarly, the correlation between the size of the post (expressed in the number of words) and other variables, including the total number of reactions, total number of comments, and number of post shares, was analyzed. The Spearman's Rho correlation test was applied to determine the statistical significance of these relationships. Table 5 presents the results of the Spearman's Rho correlation test for each combination of variables.

The Table 5 displays the correlation coefficients (Rho) between the variable Size of the post (number of words) and the other two variables (Total number of reactions, Total number of comments, and Post shares), along with the p-values. Based on the p-values, all three correlations between the size of the post (number of words) and the

other variables are statistically significant. The high value of the correlation coefficient (0.37028) between the size of the post (number of words) and the total number of reactions, as well as the high value of the correlation coefficient (0.39882) between the size of the post (number of words) and the total number of comments, indicate a positive correlation. This means that a larger post (number of words) often accompanies a higher number of reactions and comments. Additionally, there is a statistically significant but weaker correlation between the size of the post (number of words) and the number of post shares (Rho = 0.24516), suggesting that a larger size of the post (number of words) often corresponds to a higher number of shares. It is important to note that statistical significance does not necessarily imply a strong or clinically relevant relationship. Further research and analysis are needed to better understand the nature and intensity of these relationships.

Table 5. Spearman's rho correlation test for post size

	X Ranks [Size of the post]	Y Ranks [Total number of reactions]	Y Ranks [Total number of comments]	Y Ranks [Post shares (Total number of shares)]
Mean	42.5	42.5	42.5	42.5
SD	24.1	24.38	24.26	23.66
Combined Covariance	-	Combined 217.6	Combined 233.17	Combined 139.81
R	-	0.37	0.399	0.245
rs	-	0.37028	0.39882	0.24516
p (2-tailed)	-	0.00053	0.00017	0.0246

To further investigate the presence or absence of relationships between variables, we conducted additional research and analyzed the data. The non-parametric Mann-Whitney U test was applied to compare independent samples, as the data for the total number of reactions did not follow a normal distribution according to the results of the Kolmogorov-Smirnov (K-S) test (D = .1952, p-value = .00279) presented in Table 6. The results of the Mann-Whitney U test are presented in Table 7.

Table 6. The Kolmogorov-Smirnov Test: Total reactions data

Variable	N	M	Md	Sd	Sk	Kt	K-S Test Statistic (D)	p-value
Total number of reactions	84	38.18	27	32.36	1.73	3.23	0.1952	0.00279

Table 7. Mann-Whitney U test related to quick reactions

Variables	U-value	Z-score	p-value
Post Size (number of words) vs. Total number of reactions	3334.5	0.61225	0.54186
Number of newly reported cases vs. Total number of reactions	1585.5	616.052	< 0.00001

The results of the Mann-Whitney U test did not show a statistically significant difference between the post size (number of words) and the total number of reactions (Sample 1 U-value = 3334.5, Sample 2 U-value = 3721.5, expected U-values = 3528), suggesting a lack of a statistically significant relationship between these variables. Additionally, the combined results for both samples show an average rank of 84.5. Although there is a tendency for larger post sizes to have a higher number of reactions based on the U-values, the Z-value for the combined results is 0.61225, with a p-value of 0.54186. Given the significance level of p < .05, the result is not statistically significant, indicating a lack of evidence for a statistically significant relationship between post size and the total number of reactions. In contrast, a statistically significant positive relationship exists between the Number of newly reported cases published in posts and the Total number of reactions, as indicated by higher ranks in Sample 1 and lower ranks in Sample 2 (U-value = 1585.5, Z-value = 6.16052, p < .00001).

Conclusion

Based on the research conducted on posts on the official Facebook profile "Koronavirus.hr" related to the number of new cases during the four pandemic waves, the following conclusions can be drawn: The research results demonstrate a consistent presence of posts about the number of cases throughout all waves, indicating their importance in government communication. The analysis was conducted solely on posts about the number of new cases, which constitute 28% of the total number of posts. The share of posts about the number of new cases varied during different periods. The research findings are generalizable to the population of posts concerning the number of new cases on the social media platform with a 95% level of confidence.

The obtained findings provide valuable insights into the significance of posts about the number of new cases on the Facebook profile "Koronavirus.hr" during pandemic waves and highlight the need for adjusting the communication strategies of public authorities in pandemic situations. The analysis of textual posts reveals an average post size of approximately 37 words, with variability in length. The most common post length is 51 words. General visual/video content is frequently used in the posts, and the average duration of videos related to the number of new cases is approximately 50.40 minutes.

Social reactions to posts about the number of new cases have an average count of 38.18 per post; the average number of comments per post is 5.61; while the average number of shares per post is 1.55, with variability and several extremely high values. The correlation analysis between the number of new cases posted and the total number of comments and shares reveals a statistically significant positive correlation. This implies that a higher number of new cases posted is often accompanied by a higher number of comments and shares. The correlation analysis between the size of the post (expressed in the number of words) and the total number of reactions, comments, and shares also shows statistically significant positive correlations. This means that a larger post size (more words) is often associated with a higher number of reactions, comments, and shares. It is important to note that correlation does not imply a causal relationship but only an association between variables.

Further research results indicate a lack of a statistically significant relationship between the size of the post (number of words) and the total number of reactions. Although there is a correlation between the size of the post and the total number of reactions, this difference may not be sufficiently large or consistent to be considered statistically significant according to the Mann-Whitney U test.

Recommendations

These results provide guidelines for understanding audience engagement and developing communication strategies related to the number of new cases on social media platforms, thereby achieving the goal of this research, which is to provide a foundation for future creation of posts by public authorities on social media in similar crisis situations.

Scientific Ethics Declaration

The author declare that the scientific ethical and legal responsibility of this article published in EPSTEM journal belongs to the author.

Acknowledgements or Notes

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