

Data-Driven Journalism in the Context of the COVID-19 Pandemic: An Analysis of the Reporting of Numerical Data in Online Media

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Abstract

The COVID-19 pandemic has propelled data-driven journalism into a prominent role in disseminating information, emerging as a primary strategy for conveying updates and statistics to the public. This study provides a thorough analysis of how Albanian online media outlets have navigated data reporting, with a specific focus on their handling of COVID-19 data. The pandemic has not only underscored the critical importance of data journalism but has also revealed deficiencies in its execution within the Albanian media landscape. These shortcomings have the potential to leave the general audience perplexed, particularly those who may not possess an in-depth understanding of data-related nuances. The study meticulously examined 144 news stories concerning daily COVID-19 data disseminated by four prominent Albanian online media platforms.

The research sheds light on the challenges faced by data journalism within the Albanian media landscape during the COVID-19 pandemic, placing particular emphasis on the extensive use of numerical data. It reveals a tendency toward sensationalism, prioritizing swift dissemination over crucial data processing and analysis. This compromise in delivering accurate information, especially regarding COVID-19 statistics, impacts the overall quality of news coverage. These challenges have significant implications for the audience, raising important considerations. In essence, this research contributes to a deeper understanding of deficiencies in data journalism practices, advocating for a more nuanced approach to the reporting of numerical data, particularly during crises like the COVID-19 pandemic. The insights gained extend beyond the immediate context, providing valuable considerations for media practitioners, researchers, and the general public alike.

Keywords: critical attitude; information dissemination; news stories, media organizations; media reality

1. Introduction

Journalism and news publishers have historically played integral roles in democratic societies, serving as purveyors of verified knowledge on public affairs and current events (Anderson, 2018). The evolving landscape of journalism encompasses various epistemologies, such as written news, live blogging, broadcasting, and the integration of data for the identification and reporting of significant patterns and developments. The emergence of data journalism, also recognized as data-driven journalism, constitutes a distinctive discipline that amalgamates knowledge from diverse domains, including journalism, social sciences, information science, data and computer science, data analytics, information design, and storytelling. The production of reliable information and knowledge within the realm of data journalism relies on several enabling factors: access to pertinent and dependable datasets, expertise in data processing and analysis, and effective coordination practices (Westlund & Hermida, 2021). These factors are particularly salient in the context of the COVID-19 pandemic, wherein the media plays a pivotal role in disseminating numerical data regarding the virus's spread, impact, and response. Despite the fundamental prerequisite of access to reliable data for data-driven journalism, challenges persist in obtaining comprehensive and accurate datasets, with variations across research areas and nations (Rogers, 2013). To address these limitations, journalists have sought international and accessible sources, utilizing methods such as satellite imagery and data analysis to uncover patterns within specific countries. This approach is especially significant in countering misleading official narratives, particularly in problematic issues. The instrumental role of data in journalism is exemplified in providing the public with a profound understanding of complex issues, such as the spread of the COVID-19 virus. Expertise in data processing, analysis, and interpretation is equally crucial for journalists and news publishers, requiring proficiency in statistics and statistical software. In certain instances, data journalism necessitates the development of algorithms for automated data collection from authoritative sources, international organizations, and civil society (Rogers & Lam, 2019), particularly valuable in reporting on the complex statistical data associated with the COVID-19 pandemic, encompassing infection rates, mortality, and public health interventions.

The skill set required for data journalism is not universal among journalists, necessitating effective coordination to integrate knowledge within news organizations. Collaborative efforts between journalists and technologists, as increasingly observed (Angwin, 2015), have become particularly pivotal in the context of COVID-19 reporting, requiring a multidisciplinary approach to convey complex data and its implications to the public.

Data journalism has become a crucial aspect of modern reporting in today's media landscape. The era of big data has allowed journalists to extract valuable insights from large datasets that go beyond traditional reporting methods (Coddington, 2018). This capability is especially relevant in the COVID-19 pandemic, where real-time data from multiple sources, eyewitnesses, and online platforms must be synthesized and communicated to the public.

Despite its importance, data journalism faces challenges and skepticism. Some journalists may exhibit hesitancy towards embracing data, statistics, and programming, and news organizations, constrained by limited budgets, may be slow to adopt new techniques, particularly in the absence of a clear business model supporting data journalism. However, data journalism offers a promising perspective, with data journalists and data scientists in high demand across various sectors where data analysis is invaluable (Lorenz, 2012).

Advancements in data analysis and visualization tools have enhanced the accessibility of data journalism, empowering journalists and individuals to extract meaningful insights from complex datasets. This shift allows journalists to move beyond mere event reporting to explaining the significance within the numbers (Kaplan & Meier, 2015). In the context of the COVID-19 pandemic, data-driven reporting assumes a pivotal role in providing a deeper understanding of the virus's societal impact. Data journalism offers an opportunity for the media to adapt to the evolving information landscape, leveraging digital technology and data-driven approaches to strengthen its watchdog role, promote transparency, and regain public trust.

This paper aims to contribute to this discussion by analyzing data-driven journalism specific to the COVID-19 pandemic, with a focus on its implementation in Albanian online media. The study will draw upon theoretical approaches and previous research to assess how numerical data related to the pandemic is reported, visualized, and interpreted in online news sources in Albania. By examining the application of data journalism in this context, the aim is to enhance our understanding of its role in disseminating critical information during health crises. The results of the study underscore the need for a more comprehensive and data-driven approach in the reporting of critical health-related information during such crises, emphasizing the untapped potential for in-depth analysis and innovative data visualization in Albanian online media. By shedding light on the current practices and shortcomings in data journalism within the context of the COVID-19 pandemic in Albania, this research seeks to inform media professionals, policymakers, and the public about the importance of refining data reporting strategies. The findings are anticipated to contribute to the ongoing discourse on the evolving role of data journalism, providing insights that can guide improvements in information dissemination, promote transparency, and ultimately enhance public awareness and understanding of complex health issues.

1.1 Literature review

In the sphere of data-driven journalism amid the COVID-19 pandemic, several pivotal studies and reports have illuminated various facets of digital media, content personalization, ethical considerations, and the role of social media. These scholarly contributions enrich our understanding of how numerical data related to COVID-19 is reported, emphasizing the challenges and opportunities inherent in this critical journalistic endeavor. A study by Haim, Graefe, and Brosius (2018) scrutinized the impact of personalization and algorithms on Google

News content. Understanding the nuances of algorithmic curation is essential when contemplating the presentation of COVID-19 data to audiences within Albanian online media and beyond. Meyer's work, "Precision Journalism" (2019), introduces social science research methods to journalists, underscoring the significance of data and precision in contemporary journalism. This framework guides our study, emphasizing the imperative of data-backed reporting when dealing with COVID-19 numerical data in the Albanian media landscape. Westlund and Hermida's investigation (2021) delves into ethical considerations and transparency in data journalism, exploring the evolving role of data journalism and the ethical dilemmas journalists encounter when working with data. This scholarly work informs our study by emphasizing the necessity for responsible and ethical reporting of COVID-19 data in Albanian online media. Moreover, the study conducted by Zhang and Johnson (2010) on the "third-person effect" in communication investigates how individuals perceive the impact of media content on others compared to themselves. This concept is pertinent to our study as it relates to how Albanian audiences may perceive the influence of COVID-19 data reporting. The World Health Organization's (WHO) report (2020) addresses the infodemic surrounding COVID-19 and strategies for managing misinformation and disinformation. This report underscores the pivotal role of reliable journalism in combating the spread of false information during public health crises, providing essential context for our analysis of COVID-19 data reporting in Albanian online media. In addition to that, the "Digital News Report 2021," published by the Reuters Institute, offers valuable insights into global trends in digital news consumption and the evolving patterns in news consumption behaviors brought about by the COVID-19 pandemic. This report contributes pertinent data that enhances our comprehension of how the pandemic has shaped news consumption habits in Albania. In the context of data-driven journalism during the COVID-19 pandemic, these studies and reports provide invaluable insights into content personalization, ethical considerations, social media governance, and the impact of the pandemic on news consumption habits.

2. Methodology

This paper primarily relies on an analytical method involving the monitoring and analysis of daily coronavirus data in news reports. The study focused on four randomly selected Albanian online print media: BalkanWeb, LAPSI.al, MAPO.al, and Tema Online. The monitoring spanned 36 days, from November 1, 2020, to December 6, 2020, and was also chosen at random. A total of 144 news items were examined; 36 monitored news items for each outlet. The primary aim of this monitoring was to investigate how these media handled the daily communication of coronavirus data from the Ministry of Health and Social Protection. Specifically, the study aimed to determine whether the media adhered to the three stages or phases related to data (collection, processing, and analysis) and whether they made any reporting errors. This monitoring sought to collect both quantitative and qualitative data, with

the former providing insights into the prominence of COVID-19 figures within the content of the online media and the latter facilitating an analysis of professional reporting standards. To facilitate data collection, a methodological monitoring template was prepared, which was used to gather the required quantitative and qualitative data. This template encompassed several professional parameters, including:

News Headlines Monitoring:

1. **Priority of COVID-19 Figures in Headlines:** This aspect investigated which COVID-19 figures held the greatest prominence in news headlines. The monitored figures included the numbers of lost lives, new cases, tests conducted, and recoveries.
2. **Tone of Headlines:** This aspect scrutinizes the tone of news headlines. Specifically, it assessed whether headlines conveyed a “normal” situation, simply presenting the figures of the day, or if these figures were accompanied by expressions or phrases that could imply a relieved or alarming state of affairs.

News content monitoring:

1. **Accuracy of Data:** This aspect examined whether the media under scrutiny made any reporting errors regarding COVID-19 figures.
2. **Stages and Phases of Data Handling:** This segment analyzed whether these media fulfilled their role in collecting, processing, and analyzing data obtained from the official website of the Ministry of Health and Social Protection. It aimed to determine if the media engaged in sensationalism.
3. **Utilization of Alternative Data Visualization:** This aspect explored whether the media employed alternative methods of data visualization, such as tables, graphs, etc.

The designed monitoring tab facilitated the collection of data essential for a comprehensive assessment of the performance of Albanian online media in disseminating information amid the COVID-19 pandemic. It systematically evaluated their ability to generate unique content, the precision of the information they conveyed, and the extent to which sensationalism shaped their reporting practices. The analysis and findings from this study are rooted in the data acquired through this monitoring process, shedding light on the media's response to the pandemic and its implications.

3. Results and Discussion

The daily release of COVID-19 infection and mortality data by the Ministry of Health has emerged as a significant and recurrent event, exerting substantial influence over the media's agenda by furnishing fresh statistics daily. Consequently, the media has assumed the responsibility of generating, reproducing, and disseminating data-driven analyses about the virus's prevalence within the nation. However, it is crucial to underscore that this practice of data reporting has not consistently adhered to the established standards of effective and professional journalism, as delineated in its primary objectives. On the contrary, it has laid bare

a myriad of discrepancies, a selection of which will be subjected to thorough scrutiny in this paper.

3.1 Data Prioritization in COVID-19 News Headlines

The quantitative analysis derived from our monitoring reveals that, during the COVID-19 pandemic, the Albanian audience was inundated with information from various media outlets. This inundation commenced with the headlines themselves, often preceding an immediate exploration of the news content. This observation holds significance for the four online media sources under scrutiny in our study: BalkanWeb, LAPSI.al, MAPO, and Tema Online. Upon categorizing the figures accorded the highest priority in the headlines of news stories related to the COVID-19 situation, variations in the prominence of specific figures within the monitored media outlets become evident. These findings are meticulously documented in Table 1.

In the case of BalkanWeb, a relatively balanced emphasis is observed between the number of lives lost and new cases. Notably, BalkanWeb distinguishes itself as the sole outlet among those monitored, assigning greater significance to the figures of lives lost in their daily COVID-19 reports. Out of the 36 news headlines monitored, 17 commenced with the figures of lives lost, followed by 12 headlines featuring the number of new cases. Three headlines adhered to the standard format published by the Ministry of Health in COVID-19 updates, which includes the following metrics: number of COVID-19 tests, number of recovered patients, number of new cases, and number of lives lost in the last 24 hours. Four headlines contained no numerical data. Conversely, LAPSI.al exhibited a markedly different approach, with figures of new cases taking precedence in 21 headlines, while figures of lives lost followed with 12 headlines, placing them first in priority. Only one title adhered to the standard format of the Ministry of Health, and two titles lacked any numerical data.

MAPO, in contrast, appeared to prioritize figures of new cases, with 19 news headlines commencing with these numbers, while figures of lives lost followed with 10 headlines. The remaining headlines either adhered to the Ministry of Health's format without alterations (four titles) or contained no numerical data (three titles). Tema Online demonstrated a pattern akin to MAPO and LAPSI.al, giving more prominence to figures of new cases, with 21 such headlines, while figures of lives lost ranked second with 10 headlines. Four headlines adhered to the Ministry of Health's format, and only one headline lacked numerical data.

Significantly, our findings, spanning 144 observed news headlines, indicate that figures of new cases held the highest priority across these outlets, accounting for more than half of the most prominently featured headlines during the study period, followed by figures of lives lost. This pattern suggests a possible strategic effort by these media outlets to present headlines that strategically navigate the pandemic's impact by not immediately confronting readers with its most distressing aspect—the loss of lives. It is noteworthy that categories such as “tests carried out” or “persons who have recovered” are omitted from the table due to the absence of

headlines prioritizing these figures in any of the online media sources in our study. Exceptions were identified within the Ministry of Health's titles, which, upon comparison, remained unchanged.

Table 1: Priority Allocation of Data Categories in News Headlines by Online Media

Online Media	Lives Lost	New Cases	Same as MOH	Without Figures
BalkanWeb	17	12	3	4
LAPSI.al	12	21	1	2
MAPO	10	19	4	3
Tema Online	10	21	4	1
Total	49	73	12	10

The data analysis underscores that the figures of “Lives Lost” and “New Cases” serve as focal points in the news headlines. Specifically, “Lives Lost” figures consistently appear in 49 headlines, while “New Cases” figures are even more prevalent, featured in 73 headlines. This suggests a prioritization by these media outlets to convey information related to the pandemic's impact in terms of both fatalities and new infections. Additionally, the category labeled “Same as MOH” (Ministry of Health), encompassing headlines following the standard format of COVID-19 updates provided by the Ministry of Health, accounts for 12 headlines. This implies a tendency among these outlets to adhere to the official presentation of data. A smaller number of headlines, totaling 10, fall into the category of “without figures,” indicating a potential strategy to pique curiosity and encourage readers to delve into the content by offering an overview of the COVID-19 situation through textual descriptions rather than quantitative figures.

The overall data reflects the media's strategic choices in reporting on the COVID-19 pandemic. The prevalence of “New Cases” figures in the headlines suggests a deliberate focus on the progression of the virus, while the inclusion of “Lives Lost” figures underscores the gravity of the pandemic's impact on public health. Titles adhering to the Ministry of Health's format demonstrate an effort to provide official information, and the inclusion of headlines labeled “Without Figures” suggests a blend of textual narratives and an intent to capture the reader's interest. Examples of such news headlines include phrases like “*Persistent High Counts of Coronavirus Infections, What's the Situation in COVID Hospitals?*” or titles offering narrative overviews such as “*Statistics Emerge: Decline in COVID-19 Cases and Victims in the Country*” or “*Deteriorating Situation: Record-Breaking Surge in COVID-19 Infections Today.*”

The results presented in Table 2 provide insight into how Albanian online media outlets framed the tone of their headlines during the COVID-19 pandemic. The monitoring aimed to discern whether the media accentuated the negative aspects of the pandemic or opted for more neutral presentations in their headlines, revealing a nuanced approach to conveying information. The media's choice of words and expressions served to either alarm or inform their readers. The data exposes variations in the manner and extent to which these media outlets adopted an alarming tone within their headlines. A prevailing trend emerges in emphasizing the gravity of

the pandemic, with a total of 59 headlines classified as “alarming” and 85 as “common titles,” presenting figures more straightforwardly.

Among the monitored media, MAPO stood out by employing the most alarming headlines, featuring 20 expressions that underscored the severity of the situation. These included phrases like *“The situation does not know improvement,” “record numbers,” “dramatic/heavy/tragic balance,”* and *“shocking numbers again.”* Similar trends were observed in the other media outlets, albeit with differences in emphasis. For instance, BalkanWeb had a higher number of “common” titles, with 21 headlines presenting numerical data without additional alarming expressions. Nevertheless, it also featured 15 headlines where numbers were notably higher, prompting expressions such as *“The curve knows no decrease,” “Another black day,”* or *“New record of infections/victims.”* LAPSI.al exhibited a similar pattern, with 23 headlines adhering to “common” titles and 13 incorporating alarming expressions such as *“Record of victims,” “Scary numbers,” “Scary situation,” “Black day,” “COVID doesn’t stop,”* and *“Another black day.”* Tema Online, in comparison to other media, displayed a higher prevalence of “common” headlines, with 25 headlines presenting data straightforwardly. However, the outlet also featured 11 headlines that adopted alarming expressions, including *“Alarming balance of the last 24 hours,” “The number of infections is increasing alarmingly,”* and *“Alarming numbers.”* A noteworthy observation is that, during the monitoring period, none of the media outlets incorporated headlines highlighting a positive balance or a decline in new cases. This signifies a consistent emphasis on alarming aspects of the pandemic, reinforcing the critical role of media framing in shaping public perceptions and responses to health crises.

Table 2: Tone of COVID-19 Headlines in Online Media

Online Media	Alarming Headlines	Common Titles
BalkanWeb	15	21
LAPSI.al	13	23
MAPO	20	16
Tema Online	11	25
Total	59	85

3.2 The Search for News or Sensation

The pivotal role of the news media in providing the public with information on current events cannot be overstated; it serves as a crucial mechanism for individuals to form opinions and make informed decisions. While ostensibly committed to delivering factual information, it is essential to acknowledge that the media operates fundamentally as a business entity, motivated by financial considerations (Postman, 1985). Consequently, there exists a discernible inclination among media outlets to prioritize entertainment over enlightenment as a strategic approach to capturing a broad audience. This proclivity for sensational and distressing news, entwined with elements of drama, fiction, and fear, introduces a subtle convergence between news and entertainment. Instead of presenting raw information or

engaging in nuanced analysis, media executives meticulously curate news stories based on their entertainment potential (Gans, 2004). This process begins with editors selecting stories deemed captivating for their audience.

Numerous studies substantiate the audience's attraction to alarming and tragic news, with these characteristics seamlessly integrated into news stories, often featuring elements of fiction engineered to seize the audience's attention. Consequently, the press assumes an active role in not merely reporting the gravity of a crisis but also shaping its narrative, a role particularly pronounced during the COVID-19 pandemic (Usher, 2014). This influence is further magnified by the prevalent use of numbers, frequently serving as headlines for coronavirus updates. Despite the alarming nature of these developments, the media has displayed limited restraint in tempering the creation of sensational news, a phenomenon conspicuous in both news headlines and content.

However, it is imperative to subject these general observations to scrutiny to ascertain their applicability to the specific case of the four online media outlets under examination, namely BalkanWeb, LAPSI.al, MAPO, and Tema Online. Although these outlets played a significant role in disseminating information during the pandemic, a nuanced examination is warranted to gauge the extent to which they adhered to their purported informative purpose. To address this inquiry comprehensively, we initiated a meticulous analysis of the content featured in these media outlets.

3.2.1 Completion of Data Stages: Collection, Processing, and Analysis

In the intricate process of news production, encompassing stages of collection, processing, and analysis, the importance of these preliminary phases cannot be overstated (Meyer, 2019). However, amid the intense competition to disseminate news, particularly in the context of the COVID-19 pandemic, an issue of paramount significance in recent times, media outlets appear to have allocated limited emphasis on these essential stages. This discernible trend was evident in the media outlets under scrutiny in this study—specifically, BalkanWeb, LAPSI.al, Gazeta Tema, and MAPO. Notably, three out of the four outlets, namely BalkanWeb, LAPSI.al, and Gazeta Tema, demonstrated a consistent pattern wherein approximately three-quarters of the content within their news articles closely mirrored the updates from the Ministry of Health. These articles predominantly reiterated figures highlighted in their headlines, emphasizing new cases, fatalities, and, in some instances, test numbers and recoveries. The subsequent inclusion of the Ministry of Health's announcements in their entirety suggests a reliance on official data. For instance, BalkanWeb adhered to a recurrent pattern in their COVID-19 updates, providing a straightforward report on lives lost categorized by respective cities. The articles then enumerated municipalities with new positive cases, reporting on recoveries, patients in intensive care, and individuals requiring intubation. The news pieces featured a call to action from the Ministry of Health, urging citizens to remain vigilant and concluding with basic statistics illustrating the nationwide coronavirus situation.

A similar trend was observed at LAPSI.al and Tema Online, with the former presenting 13 out of 36 monitored news articles as verbatim reproductions of the Ministry of Health's updates. Another seven articles were succinct, comprising key figures for the day without a structured narrative, while the remaining 16 provided straightforward reports on the COVID-19 situation. Tema Online exhibited a pronounced reliance on the Ministry of Health, with 16 news articles closely resembling official updates, some even mirroring them verbatim. The remaining news articles followed a familiar pattern of straightforward reporting, echoing trends observed in other outlets. In contrast, MAPO adopted a distinctive approach, organizing content to guide readers to figures of particular interest, highlighted with distinctive formatting. Additionally, MAPO integrated figures from the previous day alongside current data, a practice not observed in other outlets.

Despite their precision in reporting COVID-19 figures, these media outlets fell short of fulfilling their mission to inform comprehensively. They replicated official updates without engaging in analytical exploration of Ministry of Health data, neglecting opportunities to enrich narratives with expert insights and fresh perspectives. This failure to capitalize on the potential for robust and compelling news reports, driven by a haste to publish information following the Ministry of Health's updates, reflects a proclivity for evoking emotions like fear and panic. This approach, fundamentally aligned with sensationalism, runs counter to the journalistic duty of impartial and honest reporting.

3.3 Data Visualization

In the initial phases of the COVID-19 pandemic, visual representations such as virus molecule imagery and infection curve graphs became prevalent. However, the visual landscape has evolved significantly since the commencement of 2020, introducing a broader iconography to depict the ongoing crisis. In their examination of the utilization of data visualization techniques by journalists during the pandemic, Tandoc et al. (2020) underscored the critical role of data literacy in enhancing audience understanding. Data journalists grappled with the formidable task of monitoring and interpreting the vast and dynamic stream of information about the coronavirus. They endeavored to present this information in visually compelling and comprehensible patterns to the public, often in real time. The visualizations encapsulated crucial aspects such as the number of infected individuals, recoveries, lives lost, new cases, and the geographical spread of the virus. Notably, interactive graphics emerged as an effective means of conveying narratives, encouraging readers to engage with the data at their own pace (Kirk, 2016). This interactive approach fostered a more profound and meaningful understanding of the complex problem, rendering it particularly valuable in online and television media. While visualizations proved potent in elucidating intricate data, the sheer volume of available information presented a challenge for media outlets. They were required to meticulously select, process, analyze, and present this information accurately to avoid confusion (Kalatzi et al., 2018).

In the context of Albanian media, specifically the online outlets scrutinized in this study, the utilization of images, graphs, or tables to convey pivotal information about COVID-19 could have constituted a straightforward and effective approach. However, our analysis indicates that these media outlets were unprepared for this task, as evidenced by the absence of such visual aids in their news content. For instance, BalkanWeb routinely incorporated photos into its coverage of COVID-19 updates, although these images seemed unrelated to the objective of informing the audience or eliciting specific emotions. As illustrated in Figure 1, these photos typically depict scenes from COVID hospitals, displaying ambulances, medical personnel, or hospital facilities. Regrettably, these images did not serve the purpose of informative visualizations.

Figure 1: Photo visualization of the news about COVID-19 on BalkanWeb



Headline: *Record number of infections in the country, MoH: 421 positive cases, with 7 patients losing their lives.*
Source: <https://www.balkanweb.com/>

Similar trends were observed in LAPSI.al and Tema Online, where none of the 36 monitored news items for each outlet featured informative graphics accompanying the news stories to summarize, elucidate, or augment the audience's comprehension of the COVID-19 situation. Instead, these outlets opted for the insertion of photos akin to those depicted in Figure 2.

Figure 2: Photo visualization of the news about COVID-19 on Lapsi.al and Tema Online



Headline: Alarming: 836 New Cases of Covid in Albania, 15 Lives Lost (Map)
Source: <https://lapsi.al/>

Headline: The number of infections is increasing alarmingly, MoH: 495 new cases and 8 Covid-related deaths in the last 24 hours.
Source: <https://www.gazetatema.net/>

In contrast, MAPO departed slightly from this pattern. In the photos from its infectious emergency section, the figures for new cases from the previous day, the day of publication, and the total new cases were presented in the form of a small "graph." However, this graph had limited information scope, solely encompassing the number of new cases, and was somewhat challenging to discern due to its placement, as depicted in Figure 3.

Figure 3: Photo visualization of the news about COVID-19 on Mapo.al



Headline: Heavy toll: 832 individuals affected by Covid today, with details on the cities where new cases were recorded
Source: <https://gazetamapo.al/>

4. Conclusion

In conclusion, the formidable task of effectively conveying uncertainty during the COVID-19 pandemic has underscored the unprecedented challenges faced by media outlets, including BalkanWeb, Lapsi.al, Mapo, and Gazeta Tema. Notably, a prevalent inclination toward sensationalism has been observed, with a primary focus on swift dissemination of COVID-19 updates, often at the expense of crucial news processes such as data processing and analysis. This tendency has, to some extent, compromised the role of these media outlets in delivering accurate and insightful information to the public.

The prioritization of figures related to new COVID-19 cases and fatalities in headlines reflects a strategic response to heightened audience interest. However, this emphasis has contributed to an increased sense of fear and uncertainty among the public. Moreover, while reporting accurately on data sourced from the Ministry of Health, these outlets have neglected to contextualize these figures within the broader population. This oversight results in incomplete reporting, impacts the objectivity of the news, and hinders a comprehensive understanding of the COVID-19 situation. The predominant presentation of COVID-19 figures in plain text within news articles, without the integration of tables or graphics, has limited readers' ability to identify specific figures of interest and has led to a lack of interpretation and analysis. In response to these findings, it is evident that Albanian online media was ill-prepared for the challenges posed by COVID-19 in terms of data reporting, as reflected in the format, presentation, and content of their published news.

Moving forward, it is recommended that media outlets prioritize deeper engagement in the processing and analysis of information, moving beyond reliance solely on official data from higher institutions. Interrogating and correlating data with facts from diverse sources strengthens the quality and engagement of news reporting. Sensationalism, it is emphasized, should not compromise the principles of honest, fair, and transparent journalism. Clear, organized presentations of news, coupled with the exploration of alternative methods of data visualization, are essential for enhancing audience comprehension and fostering a more informed public.

Albanian online media can significantly improve their data journalism practices by implementing strategic measures that foster a more resilient and responsive approach to health crises, ensuring the effective communication of accurate, insightful, and actionable information to the public. To achieve this, media organizations are strongly recommended to invest in comprehensive training programs designed to equip journalists with advanced data journalism skills. Utilizing workshops, seminars, and online courses proves to be effective in empowering journalists for the adept collection, analysis, and presentation of data, especially in the challenging context of health crises. Furthermore, the establishment of collaboration between journalists and data experts, such as statisticians and data scientists, is of paramount importance. Creating interdisciplinary teams enhances the depth and accuracy of data-driven reporting, facilitating a more nuanced understanding of complex health-related issues. To

maintain consistency and reliability in data journalism practices, media outlets are encouraged to formulate and adhere to comprehensive guidelines. These guidelines should encompass best practices, ethical considerations, and standardized procedures for processing and presenting health data.

Additionally, adopting diverse data visualization techniques is highly recommended to present information in a more engaging and accessible manner. The incorporation of charts, graphs, maps, and interactive visualizations contributes to enhancing audience understanding and retention of crucial health-related data. Investing in robust data infrastructure, including cutting-edge software tools and technologies, is essential for efficient data collection, analysis, and visualization. The integration of modern data journalism tools not only streamlines workflows but also elevates the overall quality of reporting.

Moreover, the establishment of partnerships with research institutions and public health organizations is emphasized as a valuable practice. Collaborating with experts in the field enhances the credibility of data journalism, providing journalists with access to authoritative sources and expert insights.

As a final recommendation, the audience is encouraged to become discerning and critical consumers of news, actively engaging in discussions, analyses, and inquiries regarding health data. Such active participation is pivotal in elevating expectations for journalistic practices. While challenges and skepticism persist, the growth of data journalism, with its tools, freedom of information, transparency policies, and dedicated professionals, holds promise. Media and journalists must advance their practices to maintain a reputation for reliability, relevance, and value to the public in the evolving landscape of data-driven journalism.

5. Conflict of interest

All authors have approved the final version. The authors have no conflict of interest to disclose.

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