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Indifferent About Online Traffic: The Posting Strategies of Five News Outlets during Musk's Acquisition of Twitter

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Abstract

This study examines the publication strategies of legacy news outlets on Twitter following the company's acquisition by Elon Musk. We used SCImago Media Rankings to identify the news organizations with the highest online audiences, namely The Guardian, The New York Times, USA Today, The Independent, and The Washington Post. Data was acquired through the Twitter Academic API v2 and the SEMrush platform at the beginning of 2023 and covers all of 2022. The database includes website audits that monitor the web traffic of a domain, with the aggregate data subsequently processed using R packages and Atlas.ti. Our analyses show that a higher presence on Twitter leads to a substantive increase in social traffic, as seen with The Independent. This is in sharp contrast to the other news outlets. These differences

remain irrespective of their topical news coverage, broadly focused on the Russo-Ukrainian war, or compositional feature in their messages, which largely lack typical Twitter features like hashtags and @-mentions. We conclude our analysis by discussing the communication strategies of news organizations on Twitter following the company's acquisition by Elon Musk in 2022.

Keywords

Legacy news outlets; Twitter; Online traffic; Posting strategies; Musk's acquisition; X platform.

Introduction

Since its inception, the development of Twitter was marked by heightened use by journalists and a central position in the news ecosystem at the intersection of social media and news organizations (Tandoc et al., 2019; Lawrence et al. 2014). The social media platform remains of substantial relevance for news organizations, boasting a user base in excess of 550 million active users (Kemp, 2023). Since its introduction in March 2006, Twitter quickly became the primary platform employed by mainstream news outlets to disseminate their content and cultivate a substantial follower base (Lasorsa et al., 2012). In contrast to other online social media platforms like Facebook, Instagram, TikTok, or YouTube, Twitter content is populated with breaking news and information of journalistic value, with much of the content that appears in the press also appearing on Twitter (Bastos, 2015).

The user base of the platform has remained relatively stable since its creation in 2006. The demographics of the Twitter user base continues to be predominantly adult (Newman et al., 2023), consisting of individuals aged 30 and above who reported a keen interest in staying up-to-date with local and international news (Newman et al., 2023). As a result, mainstream

news outlets tended to amass a significant followership on the platform and published up-to-date tweets on newsworthy issues. The platform is optimized for sharing content at scale and speed, having become central to the real-time coverage of news and live events as well as enabling interaction with the audience (Vis, 2013).

These attributes render Twitter a highly valuable tool for increasing traffic to news outlets' websites, enhancing their online presence, and fostering audience engagement. This reliance of mainstream media on Twitter, however, was subjected to considerable strain during the acquisition of the platform by billionaire entrepreneur Elon Musk, with recent studies showing that the acquisition may have triggered a reassessment of the news industry with the social media platforms (Claesson, 2023). Given the above, we seek to investigate the publication strategies on Twitter of five international news outlets, namely The New York Times, The Guardian, USA Today, The Independent, and The Washington Post. We collected all of the tweets published by these news outlets in 2022 to identify publication strategies and traffic indicators provided by SEMrush, including direct visits, organic search, referrals from other websites, and social networks.

Twitter, of course, no longer exists having been absorbed and succeeded by X following the contentious acquisition of the social media platform by X Corp, a parent company established by Elon Musk in 2023 as the successor to Twitter, Inc. In this study, however, we refer to the social media platform as Twitter because this project was concluded during the acquisition but prior to Elon Musk's ultimate decision to change the name of the company. We are cognizant that the data we analyze in this study was provided by Twitter, not X, in line with the large body of research in the area that owed much to Twitter and its generous stance to data access, a stance that unfortunately changed dramatically with the acquisition and rebranding of the company by Elon Musk. In the following, we review the relevant

literature, describe the methodological framework employed to gather and process the data, and present our results.

Literature review

The rise of the digital intermediaries brought significant challenges to newsrooms already facing disruption to their business model (Cook & Milburn-Curtis, 2023; Cook & Sirkkunen, 2013; Franklin, 2014). The ensuing crisis from the noughties onward was characterized by declining sales of print editions and diminishing advertising revenues (Luengo, 2014; Marín-Sanchiz, 2019), a problem compounded by readers' reluctance to pay for digital subscriptions and premium services. These problems were gradually overcome with the implementation of paywalls (Arrese, 2016), along with increases in subscriptions, memberships, and premium services. Prominent success stories include The New York Times and El País (Mullin, 2023; Okpu, 2023), followed by a trend in the sector where news organizations compete for readers' attention and strive for maximum presence online.

In this context, the pursuit of readership holds significant importance for growing online audiences and maximizing revenue streams. Media organizations therefore engage in a competitive 'marketplace' for economic, social, and cultural resources (Bourdieu, 1977; Cattani et al., 2014; Couldry, 2003), with online presence emerging as an important market force that further fragments readership. The emphasis on personalization, such as Google Discover (Lopezosa et al., 2023) and Google News (Haim et al., 2018; Marcos-Recio et al., 2015), and the distribution channels provided by online social networks, search engines, and news aggregators altered the consumption patterns of news (Fletcher & Nielsen, 2019; Popp, 2006; Webster & Ksiazek, 2012). The imminent integration of artificial intelligence is poised to further revolutionize patterns of news consumption.

Similarly, news outlets are compelled to experiment with diverse formats and strategies to ensure the sustainability and profitability of their business models. The concept of newsonomics (Apablaza-Campos et al., 2018; Doctor, 2010) drives the production and dissemination of news based on sustainable journalism, which is essential for democratic societies in an ever-evolving media landscape. Consequently, proactive media organizations seek to explore novel digital formats, such as immersive journalism, virtual reality, and augmented reality (Pavlik, 2020) to engage readers with a diverse set of news narratives and experiences. These approaches draw in new readers while simultaneously increasing traffic to their websites and online brands. These alternative formats are all but eclipsed by the role of digital intermediaries, particularly social media platforms, in securing a large readership (Liedke & Matsa, 2022).

Consequently, much of the recent literature in the area explores the impact of online social networks on news organizations and their readership. Online social networks became integrated into the daily routines of millions of users, and the content published by news organizations changed to meet this increasingly interactive readership (Bastos, 2015; Herrero-Curiel, 2011). Readers ceased to be mere consumers of information and turned into active producers (Jenkins, 2006), a change that also impinged on the role of journalists (Hermida & Mellado, 2020; Pearce & Rodgers, 2020). The impact of Twitter to journalism has been particularly explored in the literature. This includes the influence of gender perspectives and content homophily (De Vuyst, 2017; Maares et al., 2021; Usher et al., 2018; Wihbey et al., 2019), the analysis of published content, including the types of content that features on the platform (Kapidzic et al., 2022) and their impact on specific news desks (Balci et al., 2022; Bastos & Zago, 2013; Casero-Ripollés & Micó-Sanz, 2022). Previous studies have also inspected Twitter's relative impact on the online traffic of news organizations (Orellana-Rodriguez et al., 2017; Orellana-Rodriguez & Keane, 2018).

Online traffic has become central to the business models of news organizations, as it enables reaching a broader audience and expanding readership (Iglesias-García & Codina, 2016; Lopezosa et al., 2021). Specifically, the utilization of SEO (Search Engine Optimization) techniques has been prevalent in newsrooms, encompassing both online and offline SEO approaches to enhance the likelihood of news articles achieving favorable positions in search engine results (Giomelakis & Veglis, 2015; Schultheiß & Lewandowski, 2020). Similar strategies exist with regard to the optimization of content for online social networks (Leonardi, 2014; Mellado & Ovando, 2021) and the ability to generate audience engagement (He et al., 2020). The work of Casero-Ripollés and Micó-Sanz (2022) explores how Twitter and its hyperlinks are reconfiguring the reach of traditional news media, particularly through retweets, as they confer authority and are a proxy for influence that grants tacit approval to the original message (Park & Kaye, 2019; Singer, 2014). Much of Twitter's impact on the agenda of the press stems from its hyperactive community of users that is sectioned across specific demographics. Such communities of practice and activist groups share common interests and have gained significant prominence within alternative and anti-establishment media platforms (Rauch, 2015; Schwarzenegger, 2021). This concept has also permeated and continues to have a lingering effect on mainstream media, particularly within specific thematic domains (Kenix, 2011; Nygaard, 2021). As a result, media organizations are increasingly prioritizing efforts of community engagement, including fostering relationships with the audience, promoting loyalty, eliciting feedback, and enhancing the quality of content (Cervi, 2019; Givskov & Trenz, 2014). Notably, Twitter serves as a valuable tool for news outlets, enabling them to identify and define their respective communities, as well as formulate concrete strategies to enhance their online visibility.

Elon Musk's takeover of Twitter in 2022 led to changes to the platform and its user base. The billionaire publicly voiced his concerns regarding Twitter's opaque algorithmic ranking system and its perceived restrictions on free speech (Musk, 2022). Following the acquisition, Musk implemented many changes to the services, including to the systems that filtered spam bots, and reversed bans on high-profile Twitter user accounts. Other changes included payment for verified accounts, the dismissal of multiple executives and staff members, and the transitioning of the company into private ownership (Jia & Xu, 2022). Research in the area identified that the acquisition of Twitter by Elon Musk, and his pledge to promote free speech on the platform by overhauling verification and moderation policies, was associated with a significant increase in engagement with contentious posts and growth in the influence of contentious actors in the political right (Barrie, 2022).

Indeed, the focus on free speech and content that is legally permissible followed a reported increase in misinformation and harmful content on the platform. Rohlinger et al. (2023) examined tweets before and after the suspension of different accounts that championed the narrative of electoral fraud in the 2020 US elections and found the bans had limited impact. Benton et al. (2022) investigated whether Musk's acquisition of Twitter correlates with an immediate increase in the incidence of hate speech targeting marginalized groups and found a surge in tweets that employed hate terms leading up to Musk's takeover. A recent study by Zinoviev et al. (2023) explored whether business people from English-speaking countries exhibited significant changes in their Twitter behaviour from the initial rumours of Musk's acquisition until completion, with only 2.5% of the sampled users showing significant behavior change.

The body of work reviewed hitherto, however, has not explored the publication strategies of legacy news organizations on Twitter since the company's takeover by billionaire entrepreneur Elon Musk, a period that runs from April to October 2022 when

substantive changes were observed in the platform, including significant increases in the followership of Republican politicians and marked decreases in the follower counts of Democrat politicians (Safak & Sridhar, 2022). Despite the contentious nature of the changes introduced during Musk's acquisition of the platform, Twitter continues to be a critical infrastructure for the distribution of news online (Tandoc et al., 2019; Lawrence et al. 2014).

It is against this backdrop that we investigate the extent to which legacy news organizations continued to rely on Twitter for the distribution of news during Musk's acquisition of the company. We formulate a set of hypotheses to test whether legacy news organizations have devised bespoke strategies to manage traffic from Twitter and whether hard news items were prioritized in the period. To this end, we test the following hypotheses:

- H1: Legacy news organizations utilized Twitter to optimize online traffic during Musk's acquisition of the company.
- H2: News content was prioritized for dissemination on Twitter by legacy news organizations during Musk's acquisition of the company.
- H3: Legacy news outlets created specific strategies to optimize traffic from Twitter during Musk's acquisition of the company.

Methodology

This study relies on quantitative methods and content analysis (Malik & Pfeffer, 2016) to investigate the utilization of Twitter by five leading news outlets. The selection of the news outlets was based on data provided by SCImago Media Rankings (SMR), a comprehensive database that evaluates the web reputation of news outlets worldwide. The five top-ranked news outlets in this ranking were selected for this study, namely: The Guardian, The New York Times, USA Today, The Independent, and The Washington Post. We subsequently collected Twitter data posted by these news outlets and on January 14, 2023, a data corpus

comprising tweets published by each news outlet throughout the year 2022 was compiled. The data collection process was carried out using the Twitter Academic API v2, which was accessed through the R package *academictwitterR* (Barrie & Chun-ting Ho, 2021). A total of 395,064 tweets were extracted from the five news outlets.

Data processing was performed using R and Atlas.ti was used to extract person and place entities from the tweet corpus (Friese, 2019). Prior to data analysis, various data cleaning routines were performed on the data to ensure quality and consistency (Boté Vericad, 2022). The R libraries used included *Tidyttext* for text mining (Silge & Robinson, 2016), *Tidyverse* for data manipulation (Wickham et al., 2019), and *UDPipe* for language processing (Straka et al., 2016). The use of R libraries allowed us to structure the data for downstream analysis using Atlas.ti. This included removing irrelevant information, standardizing textual information, and identifying patterns in the corpora. We subsequently relied on Atlas.ti for the extraction of person and location entities.

During the data processing stage, we noticed that The Washington Post published an unusually high number of tweets in a specific month, which we identified as a week-long campaign commemorating #EarthDay (April 15-21, 2022), a period during which the news outlet removed their paywall and ran a personalized campaign with @-mentions to their followers, tallying up 63,615 tweets. We deleted these tweets to prevent distortions to the distribution of the data, but we also noted that their exclusion did not significantly change the results. Figure 2 shows the monthly tweet counts for each news outlet.

Finally, online engagement metrics were retrieved on January 4, 2023 and on June 4, 2023 by querying the domains associated with each news outlet using the SEMrush platform, which is a prominent ranking platform (Abbamonte, 2023). This tool enables the monitoring of a domain's web traffic based on various parameters employed in digital marketing. In this study, the data was extracted for each of the five news outlets with a breakdown of the

multiple traffic sources of their website traffic during the second half of 2022, to the maximum period allowed by the platform. Information was collected regarding the different categories of traffic, including organic, referral, direct, and social. The data also allows for identifying the portion of social traffic originating from Twitter, which is the unit of analysis we explore in the following section.

Results

Tweets and Traffic

We start with an analysis of the Twitter usage by each news outlet to validate the hypothesis H1. Figure 1 shows a comprehensive breakdown of the number of tweets published by each organization in the period, along with the corresponding percentages of retweets (RT) and duplicated tweets. These findings are drawn from the analysis of 331,449 tweets that are displayed in Figure 1. It is worth noting that The Independent exhibits the highest proportion of tweets across the examined news outlets, with 46.5% of the total tweets in the data, whereas USA Today records the lowest percentage, amounting to a mere 7.3%. Figure 1b also shows that USA Today and The New York Times registered the most retweets and duplicated tweets in the data.

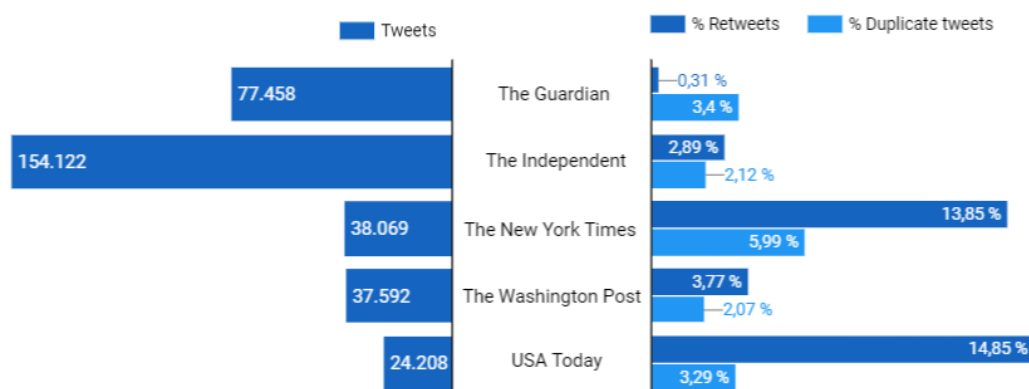


Figure 1. (a) Tweets by news outlet (left); (b) Retweets by news outlet and reposting of previously published tweets (right).

We then examined the temporal distribution of tweets for each news outlet in our sample throughout 2022. Figure 2 shows the monthly distribution of tweets accompanied by the monthly and daily averages. The Independent was found to have a high fluctuation in their output of tweets per day, with a standard deviation of 1,093.

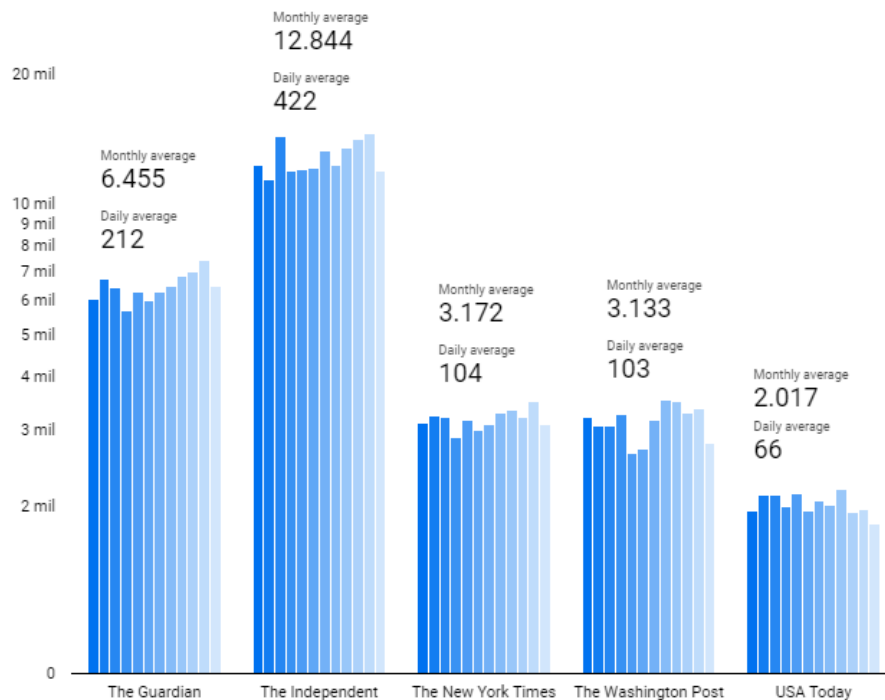


Figure 2. Monthly and daily distribution of tweets for each news outlet.

Having examined the presence of newspapers on Twitter, we explored the sources of traffic received by each news website. Figure 3 presents the distribution of traffic for each news outlet across the four groups of web analytics. The Independent tops the list again, being the most active newspaper on Twitter, receiving the highest number of visits through social media. On the other hand, The New York Times registers the lowest traffic from social media, although it features substantial direct traffic, as does The Guardian. USA Today, finally, was found to have the highest rate of organic traffic in the sample. This also provides partial validation to hypothesis H1, as the Independent receives most of the visits to their

website through social networks like Twitter.

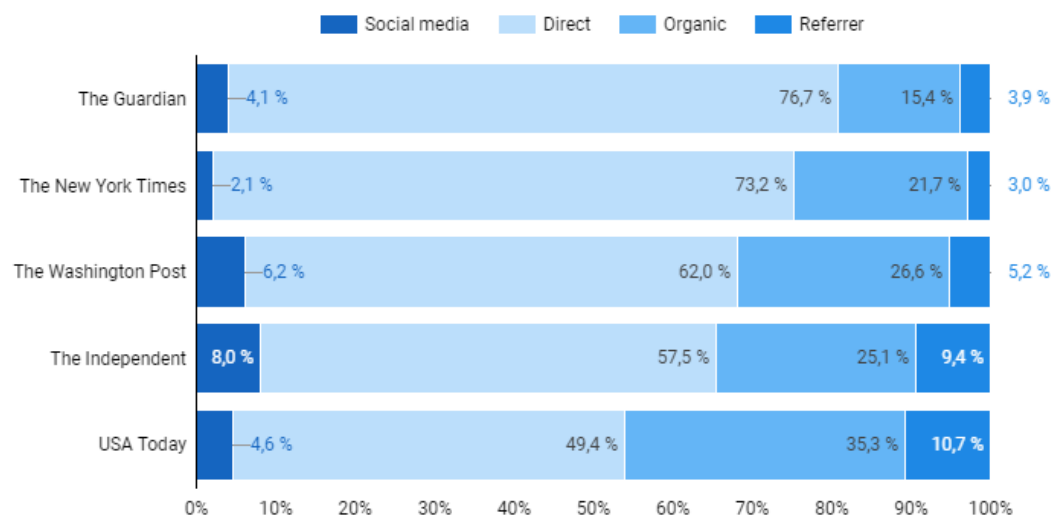


Figure 3. Traffic according to media source (SEMrush, December 2022)

A more detailed examination of social media traffic reveals a notable shift in the traffic originating from Twitter over a span of five months. The data extracted from December 2022 shows that Twitter was the primary source of online traffic and that it contributed to the highest proportion of visits across all news outlets (Figure 4a). When comparing the data between December 2022 (Figure 4a) and May 2023 (Figure 4b), when Musk's acquisition had already been completed, we found that social media traffic increased overall, whereas Twitter traffic went significantly down. In the case of The Washington Post, in December 2022, 69.3% of social traffic came from Twitter, but in May 2023, this figure dropped to 50%. The most significant change is found in The Independent, which experienced an increase of over 3% in social media traffic over the span of five months, but with a substantial decrease in Twitter traffic in the period. In December 2022, 61.3% of its traffic came from Twitter, compared with 19.8% in May 2023.

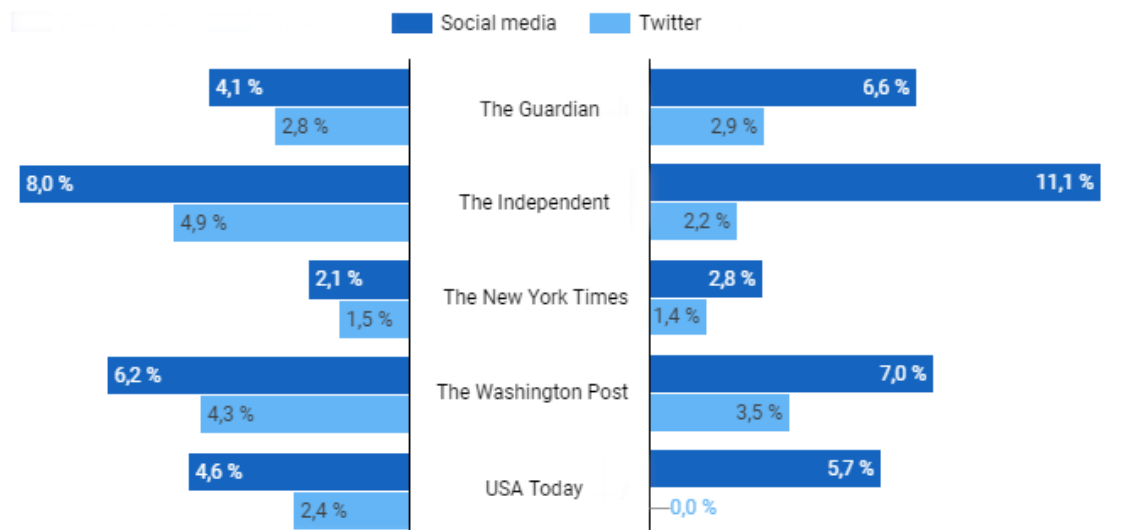


Figure 4. Traffic from online social networks compared with Twitter (a) Traffic in December 2022 (left); (b) Traffic in May 2023 (right).

These trends are in sharp contrast to the traffic news outlets registered in the period from search engines. Figure 3 highlights the outsized proportion of organic traffic attributed to USA Today, with over 35% originating from search queries. However, when considering the total number of visits (Figure 5), The New York Times shows even higher organic traffic, with over 200% higher organic traffic than The Guardian, the next newspaper on the list. We found no significant differences in the number of keywords used on Google for each news outlet in the top 100 position.

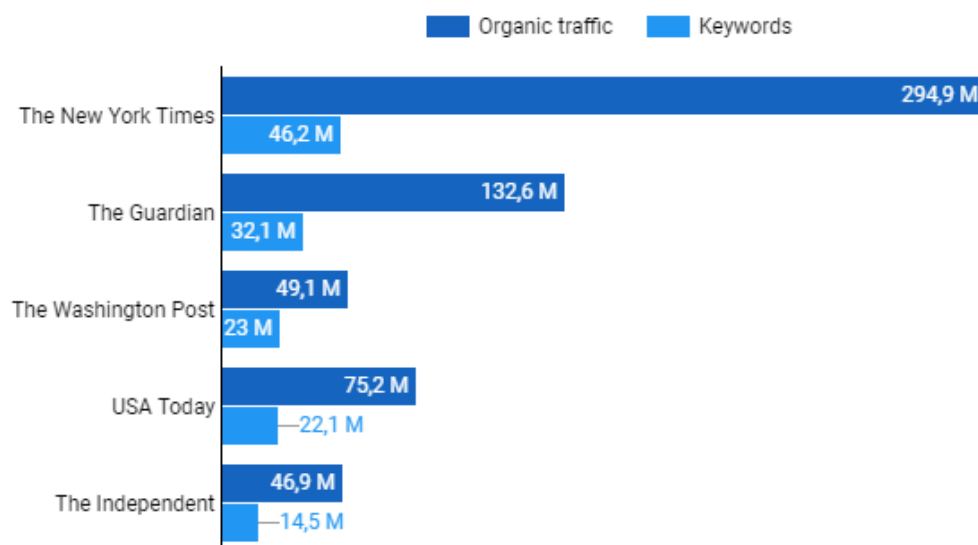


Figure 5. Organic traffic (desktop and mobile) and keywords ranking on Google.

Content analysis

We approach hypothesis H2 by exploring the strategies employed by each news outlet to boost traffic to their websites by analyzing the tweets in the data. Several aspects have been examined, including tweets containing URLs, most frequently shared domains, the news sections with a higher share of tweets, the use of hashtags and @-mentions, the entities (such as individuals and locations) most commonly referenced in the text, and the level of engagement achieved by the tweets. Figure 6a shows the ratio of tweets with URLs promoting media content. USA Today and The New York Times had the lowest incidence of tweets with URLs, but they also had the highest tweet publication frequency (Figure 1).

We also examined the diversity of domains that appeared in the shared URLs (Figure 6b), with USA Today showing the largest variety of domain sources shared with their user base. The sharing of domain names not related to the organization's website, however, represents only a small proportion of the content distributed by these news outlets (see Figure A2 in the Appendix). The exception that confirms the rule is again The Independent, which dedicated a whopping 8.3% of its URLs to indy100.com, a news website owned by the its publisher that allows readers to vote on the order in which stories are published (Indy100, 2016).

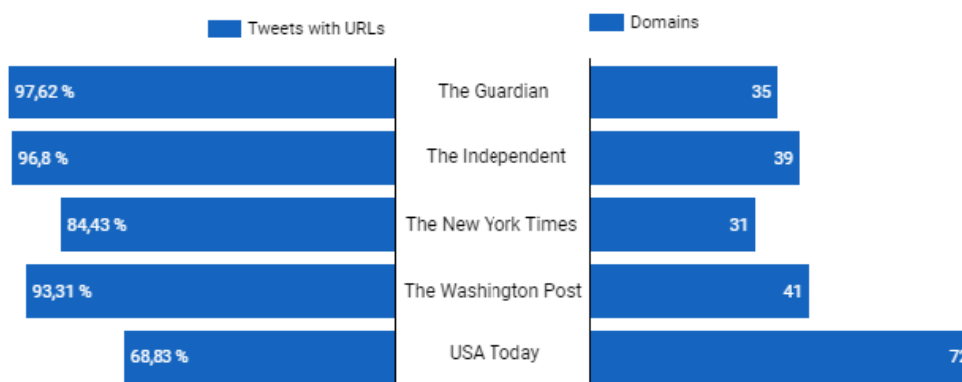


Figure 6. (a) Tweets with URLs (left); (b) URL domains (right).

In the analysis of the tweets, we placed significant emphasis on identifying the sources of the news items being shared on Twitter. This involved identifying the subdomain that hosted the news. While the accuracy of this approach is conditional on the many distinct terminologies employed by each news outlet (Bastos & Zago, 2013), this approach nonetheless yields important insights into the categorization of news that is shared on Twitter, and the relative emphasis placed by each news organization on news sections and desks. Figure 7 presents the top five news sections that are featured in content shared on Twitter, along with their relative incidence in the total output of each medium.

The Guardian			The Independent					
Section	Count	% ▾	Section	Count	% ▾			
world	10,7 mil	14,2 %	news	58,9 mil	39,5 %			
football	7,4 mil	9,8 %	arts-entertai...	20,2 mil	13,6 %			
sport	5,4 mil	7,2 %	life-style	14,3 mil	9,6 %			
uk-news	4,9 mil	6,5 %	tv	9,5 mil	6,4 %			
politics	4,7 mil	6,2 %	sport	8,6 mil	5,8 %			
						USA Today		
Section	Count	% ▾	Section	Count	% ▾	Section	Count	% ▾
us	5,1 mil	17,1 %	world	5 mil	14,2 %	news	8,4 mil	50,4 %
world	4,4 mil	14,8 %	politics	4,4 mil	12,7 %	entertainment	1,9 mil	11,6 %
live	4,1 mil	13,6 %	sports	2,9 mil	8,2 %	sports	1,7 mil	10,2 %
business	1,9 mil	6,2 %	nation	2,3 mil	6,5 %	money	1,1 mil	6,8 %
interactive	1,7 mil	5,5 %	opinions	2,2 mil	6,3 %	travel	474	2,8 %

Figure 7. News desks distribution in tweets.

The analysis reveals that Sports is the most prominent section among four news outlets, followed by World News, Politics, and Entertainment, with each of these news desks appearing in at least three or two publications. Notably, The Washington Post emphasizes opinion pieces authored by its columnists.

We also sought to unpack the type of content that was shared by the news organizations on Twitter by parsing the information obtained from the news article URL. We first sought to unpack this analysis by extracting the most frequent terms that appeared in the tweets, an approach that unfortunately did not yield significant insights. We subsequently proceeded to identify the most frequently named individuals and entities featured in the tweets (Figure 11), along with the most frequently mentioned locations (see Figure A3 in the Appendix for more details) across each news outlet.

The Independent			The New York Times		
Entity	Count	% ▾	Entity	Count	% ▾
Boris Johnson	3,6 mil	27,4 %	Joe Biden	3 mil	30,1 %
Liz Truss	2 mil	15,3 %	Donald Trump	2,9 mil	29,5 %
Joe Biden	2 mil	15,2 %	Vladimir Putin	1,5 mil	15,3 %
Vladimir Putin	1,7 mil	12,9 %	Elon Musk	657	6,6 %
Donald Trump	1,4 mil	10,5 %	Volodymyr Zelensky	616	6,2 %
The Guardian			USA Today		
Entity	Count	% ▾	Entity	Count	% ▾
John Harris	1,6 mil	25,8 %	Joe Biden	1,9 mil	46,8 %
Boris Johnson	1,6 mil	25,2 %	Donald Trump	980	24,4 %
Liz Truss	1,1 mil	17,5 %	Vladimir Putin	327	8,1 %
Vladimir Putin	706	11,1 %	Volodymyr Zelensky	222	5,5 %
Joe Biden	661	10,4 %	Elon Musk	180	4,5 %
The Washington Post					
Entity	Count	% ▾			
Joe Biden	3 mil	40,1 %			
Donald Trump	1,8 mil	24,6 %			
Vladimir Putin	895	12,1 %			
Elon Musk	600	8,1 %			
Volodymyr Zelensky	382	5,2 %			

Figure 8. Individuals mentioned in tweets.

The analysis reveals that politicians are the most likely entities and individuals to be featured in the tweets, with a topical emphasis on Boris Johnson, Joe Biden, Donald Trump, Vladimir Putin, and Volodymyr Zelensky. Notably, only one woman, Liz Truss, who served as the Prime Minister of the United Kingdom for a two-month period in 2022, is featured in two British news organizations. Perhaps unsurprisingly given the change of ownership Twitter underwent in the period, Elon Musk is the only prominent figure from outside the political arena to appear in this list.

The examination of the most referenced places in the tweets also confirmed our expectations, with Ukraine, Russia, the United States, and the United Kingdom emerging as

the most likely places to feature on content shared by these news outlets. As illustrated in Figure A3 of the Appendix, there is a substantial homogeneity in the relative occurrence of places in the data, and the frequency of occurrence is notably higher compared with the entities associated with individuals. Finally, the Russo-Ukrainian War features prominently in the data, with both Vladimir Putin and Volodymyr Zelensky appearing in the list, with a higher rate of mentions assigned to Putin.

We also examined the publication strategies employed by news outlets on Twitter by parsing the relative incidence of @-mentions and hashtags. Figure 9 shows the proportion of @-mentions and hashtags relative to the total number of tweets. Perhaps unsurprisingly, only two news outlets have prominently employed @-mentions in the period, with the utilization of hashtags being similarly scarce, with The New York Times notably refraining from using any such social media affordance.

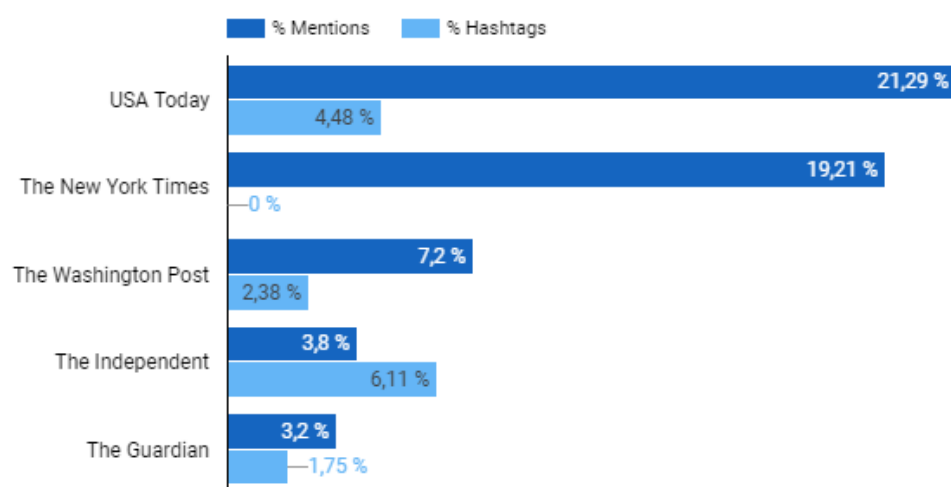


Figure 9. Relative incidence of @-mentions and hashtags in tweets.

Upon examining the news outlets that most frequently employed @-mentions, we found that USA Today predominantly mentioned sister publications and outlets associated with the organization, chiefly @usatodaysports, but also @usatodaylife and @usatodayopinion. Even @-mentions to sister organizations are low, an indication that news organizations are no longer seeking to cultivate organic and interactive publication strategies on the platform.

Similarly, The New York Times @-mentioned primarily @wirecutter, a product review website that was purchased by The New York Times Company in 2016, and @TheAthletic, a sports reporting website covering North American and UK sports that was also acquired by The New York Times Company in 2022.

User interaction

We approached hypothesis H3 to identify whether engagement with users in the platform tracks in any substantive way with online traffic. Figure 10 provides an in-depth analysis of the engagement generated by each news outlet on Twitter. The findings indicate that The New York Times has continued to track well with social media users even during the tumultuous period of the Musk acquisition, with a clear lead on the relative level of interaction among the news outlets observed in our sample, a measure that is confirmed by the relatively higher number of likes and replies. This observation is further reinforced when considering the standard deviation in the data (for a comprehensive breakdown of the tweets that have generated the highest level of interaction from each news outlet, please refer to Figure A4 in the Appendix).

Media outlet	Like ▾	Avg Like	STD Like	Reply	Avg Reply	STD Reply
The New York Times	22,4 M	588	2.195	2,8 M	74	309
The Washington Post	8 M	214	736	1,6 M	44	146
The Guardian	4,4 M	57	290	803,8 mil	10	33
The Independent	2,8 M	18	194	577,6 mil	4	29
USA Today	1,4 M	58	1.242	270,1 mil	11	34

Figure 10. Interaction with tweets by news outlets.

While The New York Times consistently secured higher levels of interaction in the period, we could not identify any clear publication strategy from the company with their readership on Twitter. In contrast, we found that The Independent was the clear leader in terms of engagement with their follower community (see Figure A1 in the Appendix). Figure 11

shows the relative engagement of news outlets with their followers, with The Independent emerging as the news organization with a clear policy of engaging with their followers, and The New York Times falling significantly behind in this area.

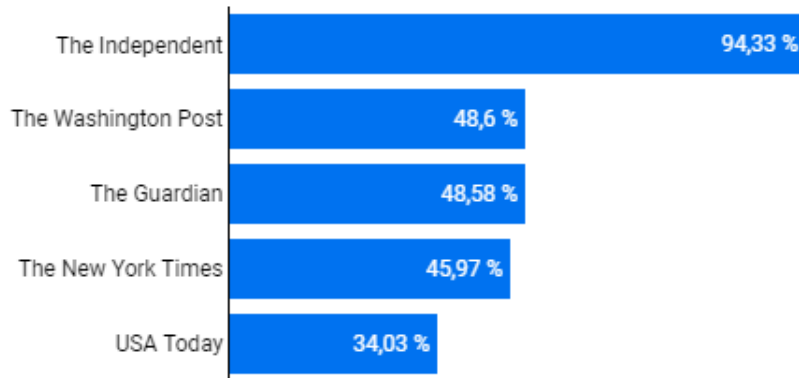


Figure 8. Engagement rate of tweets based on followers.

Discussion

Our analysis of the publication strategies of five major news outlets on Twitter during Musk's acquisition of the platform reveals significant insights. Firstly, The Independent stands out as the news outlet with the most clearly laid out strategy and footprint on Twitter, accounting for 46.5% of the analyzed tweets. Conversely, USA Today has the lowest percentage of tweets in the data set, and a notable proportion of these are in fact retweets. The monthly distribution of tweets shows that The Independent has a diverse set of publication strategies on Twitter, with a standard deviation of 1.093 that indicates greater fluctuation compared with other news outlets. As such, we partially confirm hypothesis H1 as the Independent is the only legacy news outlet with a clear publication strategy for Twitter.

Secondly, our analysis of online traffic shows that The Independent receives most of the visits to their website through social networks, while The New York Times and The Guardian rely mostly on direct traffic, which is substantial for these organizations. Indeed, The Guardian registered the highest number of visits, closely followed by The New York Times. In sharp contrast, USA Today stood out for its organic traffic that tracked well with

search engine queries. Much like The Washington Post, USA Today also optimizes their Twitter output effectively and the distribution of tweets, and the traffic they generated in the period, is rather stable. We also explored the activity and interaction of the Twitter user base by drawing from Molyneux and Mourão (2019), whose previous studies examined the potential for interaction and the response from the public. We found that The New York Times had the most activity on Twitter measured by likes and replies. However, when considering the engagement based on user interaction, particularly those that comprise followers of news organizations, we found that The Independent was the best-performing news organization. This provides further validation, albeit partial, to hypothesis H1 as the Independent receives most of the visits to their website through social networks like Twitter.

Upon analysis, the individual entities showed a clear gender-based skew by rarely mentioning women. This is in line with the conclusions of Sainz-de-Baranda et al. (2020), whose analysis of Spanish sports media found an underrepresentation of women based on 6,540 tweets. Other studies have also flagged that native digital media emphasize gender-themed news more than traditional media (Billard, 2019). This is at odds with earlier reports stating that Twitter would highlight topics overlooked by legacy news outlets, including gender balance (Rogstad, 2016). As such as, we note that the stereotypes associating men with power and marginalizing women in media persist, a trend that has successfully and swiftly transitioned from legacy media to social media. Perhaps unsurprisingly, the content shared on Twitter was predominantly circumscribed to world news and sports. Prominent figures mentioned include politicians such as Boris Johnson, Joe Biden, Donald Trump, and Vladimir Putin, with Ukraine, Russia, the United States, and the United Kingdom appearing as the most frequently cited locations. Our results are therefore consistent with hypothesis H2, as hard news stories featuring world leaders were prioritized for dissemination on Twitter by legacy news organizations during Musk's acquisition of the company. This highlights how

news organizations perform their agenda-setting role through online social networks, particularly Twitter, where they promote debate and discussion around news that extends beyond breaking news (Su & Borah, 2019). In other words, the political agenda and its subsequent presence in the press through messages produced by politicians also play a significant role in capturing the public attention (Lee & Xu, 2018).

Finally, the analysis of the tweet structure revealed distinct publication strategies employed by news outlets on Twitter. We found no clear pattern in the posting strategies of these organizations, except for the relative regularity of their tweets over monthly periods. We also found that most news outlets predominantly shared their own content or the content of sister organizations when the tweet included URLs, with the retweeting of other accounts or competing news organizations not appearing at all in the data. We also found the utilization of hashtags to be scarce, and in the case of The New York Times, virtually nonexistent. These findings are in line and offer important updates to the insights identified by Engesser & Humprecht (2015), thereby providing an overview of the strategies employed by news outlets on Twitter during the acquisition of the platform by Elon Musk. We therefore reject hypothesis H3, as no discernible strategy was identified in the publication stream of legacy news outlets with respect to Twitter during Musk's acquisition of the company.

Conclusions

In comparison to previous studies that explored the strategies of news outlets on Twitter (Rega, 2021), or focused on their coverage of politics (Casero-Ripollés & Micó-Sanz, 2022) and health (Zhang & Zhu, 2022), our study examined the publication strategies of news organizations during Twitter's tumultuous transition of ownership. We therefore examined the publication strategies and the traffic performance of the best-performing international news outlets ranked by SCImago. While we expected news organizations to have devised

sophisticated online strategies to maximize performance on social media, our findings reveal little evidence of any well-designed strategy. In other words, if news outlets are experimenting with novel strategies to produce and disseminate news to ‘attract users,’ then Twitter is certainly not a priority. This does not mean, however, that Twitter is insignificant for news organizations, as we noted a sustained presence of news organizations on the platform in 2022. Indeed, our results also show that The Independent was the most active news outlet on Twitter during the transition of ownership by securing significant traffic through the social media platform.

This is perhaps of marginal impact to The New York Times, which receives substantial direct traffic owing to its large subscriber base. The New York Times nonetheless presented limited originality in its approach, with 14% of its content comprising retweets and 6% duplicate tweets. The USA Today seemingly adopt an analogous strategy but with fewer tweets posted daily. , This too may represent a setback conceivably offset by pursuing and securing more substantive traffic through organic search on search engines. When considering organic traffic globally, The New York Times tops the list with a readership that is roughly six times greater than that of The Independent. These differences speak to the substantively different strategies employed by these news outlets during the transition of ownership at Twitter.

We also identified the predominant news content distributed by each organization, by carrying out a comprehensive analysis of the text body of the tweets, including the incidence of @-mentions, hashtags, external URLs, and commonly mentioned individuals and locations. We found that hard news items prevail in the news coverage shared on Twitter, with the most recurring theme revolving around the war in Ukraine, and politicians being the most frequently mentioned individuals. Notably, there is a significant underrepresentation of women in the analyzed tweets. Lastly, we examined the relationship between publication

strategies on Twitter and the online traffic directed to each news outlet and found that the limited use of hashtags and @-mentions was a common denominator. This is at odds with the expert management of Twitter accounts and the effective use of social media affordances.

Taken together, these findings indicate that news organizations may have divested resources and their engagement with Twitter in the aftermath of the acquisition by Elon Musk. The content was particularly homogeneous with little diversifying thematic effort, and scant attempts to enhance the performance of their content on the platform. There are, however, important caveats to these findings that need to be taken into account. Firstly, the Twitter API imposes restrictions on downloading retweeted tweets that exceed 100 characters, which hinders the identification of URLs within these tweets. While we have sought to adhere to the developer's instructions and utilization guide for the Twitter Academic API, there is a potential risk of inaccurate extraction of some tweets due to encoding errors. In addition, the URLs of news articles have no uniform format, which represents a considerable challenge in consolidating the data across news desks. Lastly, access to the Twitter Academic API was reportedly removed on a global scale in mid-June 2023, and therefore the results of this study cannot be easily replicated.

In summary, this study offers an account of the publication strategies of news organizations on Twitter, or the lack thereof, following the company's acquisition by Elon Musk, a period of marked instability for the company and the broader news ecosystem that prevented more detailed analyses of the effects of the acquisition.

Future research should examine whether the novel algorithms implemented during the Musk era promote or hinder news traffic. Additionally, further research could unpack the content of tweets to yield more accurate insights into the media's communication strategies in sensitive areas, including climate change, gender equality, the Russo-Ukrainian War, and the

Israel-Gaza conflict. More granular analyses on these topics would yield a more nuanced understanding of how the news organizations are covering high profile topics and the extent to which Twitter continues to be relevant to news coverage.

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Annexes

Figure A1. Followership, tweets, and account creation date on Twitter (data collected on 01/11/2023).

News outlet	Tweets ▲	Twitter followers	Twitter join date
The Independent	1,3 M	3,6 M	oct 2008
USA Today	390,4 K	4,9 M	ago 2008
The Washington Post	450,2 K	19,9 M	mar 2007
The New York Times	495,9 K	54,8 M	mar 2007
The Guardian	799,4 K	10,8 M	nov 2009

Figure A2. Top ranked URL domains in the data.

The Guardian

Domain	Count...	Count
https://www.theguardian.com	75.097	99,32 %
https://membership.theguardian.com	205	0,27 %
https://support.theguardian.com	168	0,22 %
https://guardian.ctdonate.org	28	0,04 %
https://myticket.co.uk	23	0,03 %

The Independent

Domain	Count...	Count
https://www.independent.co.uk	134.389	90,08 %
https://www.indy100.com	12.338	8,27 %
https://twitter.com	2.172	1,46 %
https://www.eventbrite.co.uk	161	0,11 %
https://www.change.org	43	0,03 %

The New York Times

Domain	Count	Count
https://www.nytimes.com	28.951	90,08 %
https://nyti.ms	796	2,48 %
https://cooking.nytimes.com	748	2,33 %
https://theathletic.com	623	1,94 %
https://trib.al	497	1,55 %

The Washington Post

Domain	Count...	Count
https://www.washingtonpost.com	33.232	94,74 %
https://wapo.st	864	2,46 %
https://twitter.com	534	1,52 %
https://trib.al	329	0,94 %
https://www.thelily.com	20	0,06 %

USA Today

Domain	Count ▼	Count
https://www.usatoday.com	15.143	90,88 %
https://twitter.com	450	2,7 %
https://omny.fm	436	2,62 %
https://podcasts.apple.com	243	1,46 %
https://bit.ly	124	0,74 %

Figure A3. Most commonly mentioned locations in the data.

Entity	Count	% ▾	Entity	Count	% ▾
Ukraine	4,8 mil	28,0 %	Ukraine	7,1 mil	33,....
UK	4,4 mil	25,8 %	Russia	5,9 mil	27,....
Russia	3,1 mil	18,2 %	US	3,8 mil	17,....
US	2,7 mil	16,0 %	New York	2,6 mil	12,....
London	1 mil	6,1 %	China	1,7 mil	8,3 %

The Guardian

Entity	Count	% ▾
UK	7,2 mil	43,1 %
Ukraine	3,5 mil	21,2 %
Russia	2,3 mil	14,0 %
US	2,1 mil	12,6 %
England	1,5 mil	9,2 %

USA Today

Entity	Count	% ▾
Ukraine	1,6 mil	27,6 %
US	1,5 mil	26,1 %
Russia	1,2 mil	20,6 %
Florida	789	13,9 %
Texas	668	11,8 %

The Washigton Post

Entity	Count	% ▾
Ukraine	4 mil	37,0 %
Russia	3 mil	27,4 %
US	1,9 mil	17,6 %
Florida	685	6,3 %
China	646	6,0 %

Figure A4. Tweets with high levels of engagement ordered by the number of *likes*.

The Guardian

Text	Like...	Retw...	Reply
Ferdinand Marcos Jr urged to stop pr...	34.605	8.255	335
Brazilians tired of him how Bolsonaro ...	25.900	2.833	776
Another teenage girl dead at hands of...	20.144	7.947	965
Prominent Iranian actor removes man...	17.322	3.934	457
Turkish pop star Gülşen arrested over ...	16.928	2.733	361

The Independent

Text	Like...	Retw...	Reply
Jeremy Corbyn played a version of D...	32.9...	2.514	2.957
Turkey s Madonna arrested for deridi...	28.7...	4.058	558
🚩JUST IN 🚩 Twitter to accept Elon ...	28.5...	9.835	1.805
Bolsonaro accused of turning Londo...	19.2...	2.398	544
Heartstopper s I would love to play th...	19.1...	1.573	231

The New York Times

Text	Like ▾	Retw...	Reply
Leni Robredo, the only woman on th...	163.468	42.571	987
More than 100,000 people attended ...	110.516	19.276	1.585
Leni Robredo, the outgoing vice pres...	80.309	25.260	288
Breaking News: The Senate voted 5...	66.682	13.513	1.157
Patron, an expert bomb finder and p...	60.561	7.727	626

The Washington Post

Text	Like ▾	Retw...	Reply
A judge scolded right-wing conspirac...	40.862	8.716	1.325
From @LauncherWP: A player who g...	34.811	7.902	289
Breaking news: The Justice Departm...	30.947	8.401	2.917
Trump grand jury ending in N.Y. with ...	30.781	4.572	4.051
Rand Paul, a fierce critic of the U.S. p...	24.323	2.708	3.289

USA Today

Text	Like ▾	Retw...	Reply
BTS addresses anti Asian hate Asian re...	7.635	2.893	38
A massive quake could strike the San Fr...	6.586	2.554	1.989
Rapper Coolio dies at age The Grammy ...	5.335	1.924	303
Megadrought may be the main weather ...	4.983	2.547	1.744
The decision to allow Kamila Valieva to ...	4.646	1.206	578