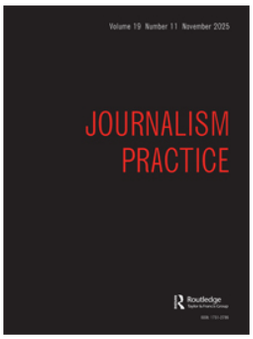

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Amplifying the News: An Analysis of the Factors Driving Republication and Facebook Engagement with News

Alice Fleerackers [a,b], Ines Engelmann [c], Michelle Riedlinger [b,d], Kim Osman [d], Laura Vodden [d], Katharina Esau [d], Arjun Srinivas[d] and Axel Bruns [d]

[a]Department of Media Studies, University of Amsterdam, Amsterdam, Netherlands; [b]Scholarly Communications Lab, Simon Fraser University, Burnaby, Canada; [c]Institute of Communication Research, Friedrich Schiller University Jena, Jena, Germany; [d]Digital Media Research Centre, School of Communication, Queensland University of Technology, Brisbane, Australia

ABSTRACT

This study examines the factors that influence republishing, sharing, and engagement with news in a digital media environment. It does so using a sample of 69 stories about climate emergency preparedness published by The Conversation, which were republished 544 times by 215 media outlets and posted to Facebook (in their original or republished form) 675 times. Using content analyses and regression analyses, we tested the impact of content-related factors—such as news values and the inclusion of systemic vs personal solutions in the stories—on how frequently stories were amplified by republishing media outlets and Facebook users. We also tested the impact of source-related factors—such as whether stories represented original vs republished content, and whether the republishing media outlet represented legacy journalism—on Facebook posting and engagement. Our findings reveal that content- and source-related factors intersect in complex ways to shape which stories gain traction via these two forms of news amplification, pointing to the value of constructive journalism but also the power of a media outlet's reputation. Moreover, we find that factors influencing republication differ from those impacting Facebook amplification, suggesting that what journalists find newsworthy may differ from what matters to social media audiences.

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Introduction

Audiences encounter news through digital pathways that are evolving in response to commercial pressures, social media algorithms, and platform features (Burgess and Hurcombe 2019; McNally and Bastos 2025). They increasingly engage with traditional, legacy news as just one small part of complex "media assemblages" (Chadwick et al. 2021) that also include bloggers, influencers, and other peripheral journalistic actors (Schapals 2022). While some audiences actively seek out news by visiting a media outlet's website, many

CONTACT Alice Fleerackers a.l.fleerackers@uva.nl
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encounter it incidentally, while scrolling through their social media feeds (Kligler-Vilenchik et al. 2020; Newman et al. 2023).

Such "incidental news exposure" (ibid.) can present opportunities to expose audiences to a greater variety of perspectives than they would otherwise seek out (Bruns 2019b; Wojcieszak et al. 2022). Yet the factors facilitating this exposure are not always clear. Specifically, "Publishers, news organisations and journalists may have little sense of why one story gains more attention than another, but their institutional practices, values and priorities may become increasingly responsive to these metrics" (Burgess and Hurcombe 2019, 362–363). Understanding how social media platforms act as both gatekeepers and amplifiers of news is thus essential (Bruns 2018; Hermida 2020).

Alongside social media, content farms, aggregators, and other nontraditional news republishers create opportunities to further diversify the information audiences encounter (Newman et al. 2023; Wojcieszak et al. 2022). Such republication-based amplification may complement social media-based amplification, as the types of stories that gain traction on social media often differ from those that are published or republished by media outlets (Guenther and Joubert 2021; Harcup and O'Neill 2017). Republication by other media outlets and social media amplification may also reinforce one another, as audiences who encounter republished versions of news stories may share them with their followers, further expanding their reach (Fleerackers et al. 2022). Yet we lack insight into this potential interaction, as existing studies have predominantly focused on how social media facilitates incidental news exposure (Schäfer 2023), overlooking the wider information context within which exposure takes place (Kligler-Vilenchik et al. 2020). This leaves much unknown about the relationships between republication and social media-driven news amplification, and how these complementary pathways shape the news that reaches audiences.

This study addresses this gap through a mixed-method analysis of the factors driving republication and Facebook amplification of 69 stories about climate emergency preparedness that were published by *The Conversation* (TC) in 2019–2022. These stories provide an ideal lens for examining the interrelated pathways of republication- and social media-driven amplification, as TC stories are often republished by other media outlets (Hermida and Young 2019; Hermida, Varano, and Young 2022) and shared on social media (Fleerackers et al. 2022; Guenther and Joubert 2021).

Literature Review

The Conversation as an Amplifier of (Research-Based) News

Launched in Australia in 2011 and now established in 11 regions, TC is a nontraditional digital media outlet that enables academics to write stories about their area of expertise, which are edited by professional journalists and published on TC's website. Those stories can then be republished (under a Creative Commons licence) by other media outlets, "amplifying" them to new audiences (Hermida and Young 2019). This open publishing model enables TC to reach 46.2 million global readers each month,[1] leading Osman and Cunningham (2020) to describe it as a "research amplifier."

Research focussed on COVID-19 reporting suggests that TC can play an important role during emergencies, facilitating early access to timely, relevant evidence to help audiences navigate crises (Fleerackers et al. 2022; Hermida, Varano, and Young 2022). TC stories may also be beneficial during climate-related emergencies, where they could

provide context and evidence-based guidance that is often missing from legacy media coverage (Boudet et al. 2020; Burgess et al. 2020). Republishing TC stories may especially help local outlets with fewer resources respond to calls to integrate academic expertise and guidance into coverage of climate-related emergencies (Hopke 2020; Parida, Moses, and Rahaman 2021).

Importantly, TC stories are also shared on platforms such as Facebook and X, where they can reach diverse users who may not otherwise seek out science or environmental news (Fleerackers et al. 2022; Guenther and Joubert 2021). Such incidental news exposure may be valuable during climate-related emergencies such as hurricanes, floods, and earthquakes, when people use social media to rapidly access and share information, call for aid, and mobilise for action (Ogie et al. 2022; Zander et al. 2022). People living in remote and under-resourced communities may especially benefit, as they often have less access to locally-relevant news (Gulyas, Jenkins, and Bergström 2023; Torre et al. 2024) but are disproportionately affected by climate-related emergencies, as seen in case of the Australian Black Summer fires of 2019–2020 (Akter and Grafton 2021). Although we lack research examining social media sharing of republished TC stories, studies of climate-related social media communication more broadly suggest there is potential for these stories to be widely shared (Pearce et al. 2019).

In sum, TC stories about climate-related emergencies provide an ideal lens through which to examine online news amplification via multiple pathways. These include direct access pathways (via the websites of TC and media outlets that have republished TC stories), as well as indirect access pathways (via social media engagement with original TC stories and their republished versions). We summarise these pathways in Figure 1.

Factors Facilitating the Amplification of The Conversation Stories

Multiple questions remain about each amplification pathway, especially regarding why some TC stories are frequently republished, shared, and engaged with, while others are not. Research suggests that both *content-related factors* and *source-related factors* may play a role.

Content-related factors refer to qualities of TC stories, such as their topical focus. For instance, an analysis of stories published by TC Africa found that stories about political topics were republished more often than those on other topics (Guenther and Joubert

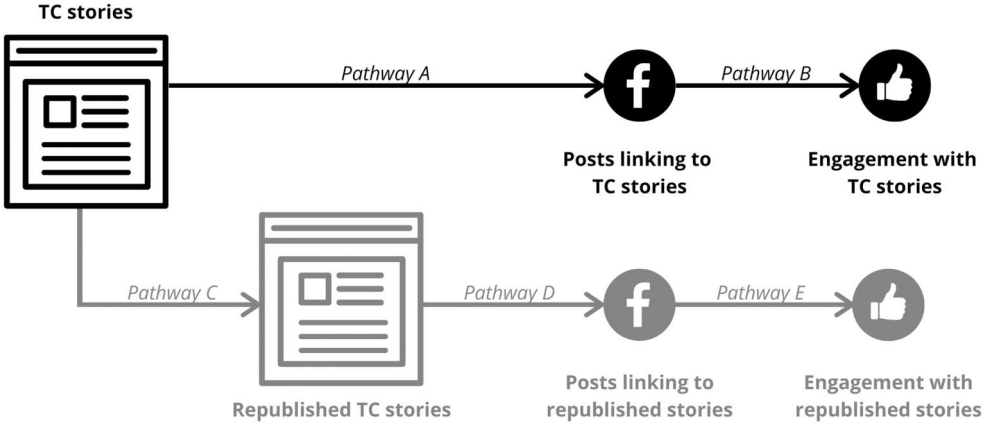

Figure 1. Pathways of TC story amplification via news republication and Facebook.

2021). In contrast, social media users more often shared stories on environmental topics like climate change, conservation, and renewables (Guenther and Joubert 2021). More broadly, different types of climate emergencies (e.g., droughts, heat waves, floods) can gain varied levels of traction on social media (Al-Saqaf and Berglez 2019; Sisco, Bosetti, and Weber 2017). This has led Zander et al. (2022) to call for more studies comparing social media engagement with content about multiple natural hazards. These studies suggest that the topic of a TC story might impact Pathway C (republication by other media outlets), as well as the four social media-related pathways (A, B, D & E).

Moreover, research on constructive journalism suggests that news stories offering individual solutions to problems (e.g., conserving water or preparing emergency kits) elicit more positive emotions than stories offering systemic solutions (e.g., governments creating more resilient infrastructure or investing in disaster planning) (Rusch et al. 2022). The emotional impact may be especially relevant to stories about preparing for climate emergencies, as mitigating these crises often requires both personal and societal actions (Jetten et al. 2021). However, existing research has largely focused on how audiences respond emotionally or behaviourally to constructive journalism (Lough and McIntyre 2023). This leaves much unknown about the impacts for social media sharing or engagement (i.e., Pathways A, B, D & E). To our knowledge, no study has examined news republication patterns associated with different types of solutions to climate-related emergencies (i.e., personal or systemic).

In addition to resource efficiency (Erdal 2009), status-related motivations (Thompson, Wang, and Daya 2020), and content visuality (Nowak-Teter and Łódzki 2024), *news values* may also influence whether a media story is republished and/or shared on social media (Eilders 2006; Park and Kaye 2023). News values represent perceived characteristics of an event that make it newsworthy, which journalists learn to consider when choosing what stories to report (Galtung and Ruge 1965). As a result, stories that have multiple news values are generally more likely to receive coverage than those deemed less newsworthy (Bednarek and Caple 2012). Common news values include *negativity* (harmful/tragic dimensions of events), *positivity* (uplifting/hopeful dimensions), *controversy* (dispute/disagreement), *facticity* (relevant data/evidence), *prominence* (involvement of high-status actors), *consonance* (alignment with people's existing perceptions), *unexpectedness* (surprising updates), *impact* (important consequences), and *personalisation* (human-interest dimensions) (Bednarek and Caple 2012; Eilders 2006). As professionally trained journalists, editors at republishing media outlets likely consider these values when deciding which TC stories to republish, although this has never been empirically tested.

Studies suggest that traditional news values not only shape which stories are republished, but also play a role in determining whether stories are shared on social media (Park and Kaye 2023; Wendelin, Engelmann, and Neubarth 2017). While we lack research on TC stories specifically, research from other contexts suggests that the news values that shape social media users' sharing behaviours can differ from those shaping journalists' decisions of what to (re)publish (Harcup and O'Neill 2017; Wendelin, Engelmann, and Neubarth 2017). News values thus have the potential to impact each of the pathways in Figure 1 but may do so in different ways.

Source-related factors relate to qualities of the media outlet republishing a given TC story, such as its geographic scope, type (i.e., legacy/non-legacy), and topical focus

(Hermida and Young 2019). Studies are limited but suggest these factors may influence which republished versions of TC stories social media users share and engage with (i.e., Pathways D–E). For example, Lepird et al. (2024) found that Facebook, Twitter, and Reddit users more often shared stories published by national and international news outlets than those by local outlets. However, outlets' geographic scope did not appear to impact level of engagement. Similarly, a review by Pearce et al. (2019) suggests that audiences prefer to share stories published by major legacy media outlets. This may not hold true when it comes to TC stories, as non-legacy republishers appear to drive an outsized proportion of the page views these stories receive (Hermida and Young 2019). Moreover, as story views do not equate to social media engagement, it remains unclear whether these source-related factors affect Pathways B or E. Finally, because TC straddles the line between legacy and peripheral media (Hermida and Young 2019), it is unclear whether social media users post and engage with TC stories as they do other non-legacy outlets.

Objectives and Research Questions

Given the potential for TC stories to contribute evidence-based solutions during climate-related emergencies, it is important to determine the factors that influence whether and to what extent TC stories are republished, shared, and engaged with. To do so, we present a mixed-methods analysis of the republication and Facebook-driven amplification of a sample of 69 TC stories that provide guidance for preparing for climate emergencies ("TC Emergency Preparedness" or "TCEP" stories). We chose stories published between 1 January 2019 and 31 May 2022, when fires and floods ravaged the authors' home countries of Australia and Canada. We focused on Facebook, the largest social media platform in the world (Dixon 2024, july 10). To understand the factors driving each of the amplification pathways in Figure 1, we ask:

RQ1: What content-related factors predict republication of TCEP stories by other media outlets?

RQ2: What content-related and source-related factors predict Facebook amplification of TCEP stories, both in their original and republished form?

Method

Identifying TC Emergency Preparedness Stories

To identify TCEP stories, we used data provided by The Conversation Media Group through an established partnership with the Digital Media Research Centre. We used Google BigQuery and Tableau in June 2022 to access all TC stories in the provided dataset that were tagged with a relevant climate-related emergency topic. We filtered this dataset (N = 150,446) by the topic search terms *flood, fire, emergenc*, disaster*. This resulted in 3,141 stories (flood N = 715; emergenc* N = 433; disaster N = 784; fire N = 1,209). We further refined this dataset by filtering for stories that had been republished by at least one other media outlet between Jan 1, 2019 and May 31, 2022. This resulted in 1,712 original TCEP stories (floods N = 349; emergenc* N = 272; disaster N = 386; fire N = 705).

For each of these stories, we downloaded metadata from the TC dataset, including view counts (across all editions of TC) and data about republished versions of the stories (i.e., names of republishing media outlets and view counts). From this dataset, we selected the top 100 TC stories for each topic, based on the cumulative view counts of both the original TC stories and the republished versions. Three researchers then read and manually filtered the stories, retaining only those stories that (a) focused on a fire, flood, and/or another climate-related emergency; (b) focused on Australia or North America, or had a more general global focus; (c) included recommendations or calls to action for personal or systemic change that could help prevent or mitigate future disasters or their consequences; and (d) reported evidence or news, not opinion. This filtering process left us with 81 stories, from which we removed duplicate and triplicate stories (i.e., stories tagged with more than one topic search term and thus represented more than once in our dataset). The final sample comprised 69 original TCEP Stories (see Appendix, Table 1), which were collectively republished 1,242 times by 220 media outlets, according to the data provided by TC.

Gathering Republished Stories

TC only tracks republished stories with a built-in *Page View Counter,* a "1 pixel by 1 pixel invisible image that allows [TC] and [its] authors to know when and where content is republished."[2] Yet, republishers do not always follow this guideline, meaning that some republished stories were missing from the dataset provided by TC. To capture these missing stories, we used Altmetric[3], a company that tracks mentions of research outputs, including TC stories, in a variety of digital media. On August 17, 2022, we searched the Altmetric Explorer for all republished versions of the 69 TCEP stories within our study timeframe. We downloaded 1,526 stories and manually compared them to the list of 1,242 republished stories provided by TC, adding any stories that were not already in the dataset.

We then manually reviewed and cleaned this consolidated dataset of 1,706 republished TCEP stories. We removed 415 stories with a missing, broken, or unresolvable URL; 612 stories that merely hyperlinked to a TC story, rather than republishing it[4]; and 135 duplicate stories. This resulted in a final sample of 544 republished versions of TCEP stories, which were published by 215 republishers.

Gathering Facebook Data

We used the Facebook public insights tool CrowdTangle to collect posts that shared hyperlinks to the 69 TCEP stories and the 544 republished stories on public Facebook spaces (i.e., public groups, pages, and verified profiles). The final dataset contained 675 public Facebook posts on 520 unique Facebook spaces. Of these, 274 posts shared an original TCEP story and 401 shared a republished story.

Analysis of Content and Source-Related Factors

To capture the topic of each TCEP story, we used the search term associated with the story as a proxy (i.e., *emergenc*/disaster*[5]*, flood, fire)*. Other content-related factors were coded

by two coders. For coding news values, two coders annotated 9 randomly selected TCEP stories, and intercoder reliability (ICR) was calculated using Krippendorff's alpha (Krippendorff 2017). Most news values achieved an ICR of K-α = .7 or higher, with the lowest reliability score at K-α = .622 for the factor negativity (see Table 2, Appendix). For the other content-related factors (geographic scope, type of solution) we used consensus coding, an approach appropriate for smaller data sets where accuracy is important (Krippendorff 2004). Consensus coding involves coders working together to resolve any disagreements and reach a mutually agreed interpretation. For each story, coders analysed the following content-related factors:

- *Type of solution* provided to advance emergency preparedness (i.e., individual, systemic, both)
- *Geographic scope* of the story (i.e., local/regional, national, international)
- *News values* (i.e., presence/absence of negativity, positivity, controversy, facticity, prominence, consonance, unexpectedness, impact, personalisation)

To analyse the nature of the republishers, we again used a consensus coding approach (Krippendorff 2004). Two researchers visited each of the 215 republishers' websites, read their About Pages, Mastheads, and Mission Statements and scanned their content, then coded each of the following source-related factors:

- *Type of journalism* (i.e., legacy, non-legacy)
- *Topical focus* of the outlet (i.e., general news, specialist)
- *Geographic scope* of the outlet (i.e., local/regional, national, international).

Codebooks for the content analyses were developed by drawing on existing research on news values (Bednarek and Caple 2012; Eilders 2006; Ziegele et al. 2020) and republisher media outlet characteristics (Fleerackers and Fagan 2022; Hermida and Young 2019) and are available online (Fleerackers et al. 2025).

Facebook Engagement

For Facebook amplification-related variables, we created a binary variable assessing whether each original TCEP story and republished version had been posted to a public Facebook space within the study time period (0 = not posted, 1 = posted at least once). We created a second binary variable for whether it had been engaged with at least once (0 = no engagement, 1 = some engagement). We also calculated a normalised Facebook engagement rate for each post linking to an original or republished TCEP story using the following formula (cf. Riedlinger et al. 2024):

$$Engagement\ rate = \frac{(Total\ Shares + Total\ Comments + Total\ Reactions)}{Total\ Subscribers\ at\ Time\ of\ Posting} \times 100$$

Calculating a normalised Facebook engagement rate for each post provides comparisons of engagement across different posts, regardless of fluctuations in audience size. It helps to determine what kind of content attracts the highest engagement relative to

audience size and ensures that larger spaces will not automatically appear more successful because they have more followers.

Statistical Analyses

We used R (dplyr package) to link the story and outlet coding with the republication and Facebook engagement data and calculate descriptive statistics. We then conducted regression analyses using source and content-related factors as independent variables (IVs) and the following count variables as dependent variables (DVs):

- Number of Facebook posts linking to the 69 original TCEP stories (Pathway A)
- Number of republished versions of the 69 original TCEP stories (Pathway C)
- Number of Facebook posts linking to the 544 republished versions of TCEP stories (Pathway D)
- Facebook engagement rate of the 675 Facebook posts linking to TCEP stories (Pathway B) and their republished versions (Pathway E)

Prior to the analyses, we conducted Spearman's rank correlation analyses between the predictors to minimise multicollinearity issues (Figure 1 in the Appendix for Pathway D; Figure 2 in the Appendix for Pathways B & E). We excluded the predictor *Outlet Topic: General News* in the models for Pathways B & E because it correlated with *Outlet Type: Legacy Media* > .80 (Field 2018). In these analyses, we primarily used negative binomial regression models (R package MASS) with maximum likelihood procedures for parameter estimation, a convenient and standard method of accounting for the properties of empirical count data (Cameron and Trivedi 1998). For models with number of Facebook posts as a DV, a Voung test[6] revealed that the variable was zero-inflated. As such, we used zero-inflated negative binomial models in these analyses (R package pscl) (Roback and Legler 2021; Zeileis, Kleiber, and Jackman 2008). In modelling Facebook engagement rate, we estimated a logistical regression model (with binary engagement as DV) and a negative binomial model (using normalised rate of Facebook engagement as DV).

Results

Content and Source-Related Characteristics of TCEP Stories and Republishing Media Outlets

Content analyses revealed that the 69 TCEP stories in our sample mostly provided systemic (as opposed to individual) solutions for emergency preparedness; had a national geographic scope; and were approximately evenly divided between being focused on a fire, flood, or a disaster/emergency more broadly (Table 1). Unsurprisingly, all stories featured at least some level of the news value negativity (Table 2). Additionally, most were also high in impact, facticity, and, to a lesser extent, personalisation. Other news values were less present within TCEP stories.

As can be seen in Table 3, the republishers amplifying TCEP stories predominantly represented legacy journalism, published general news, and had a local or regional scope.

Table 1. Solution type, geographic scope, and topic of original TCEP stories ($n = 69$).

Solution type		Geographic Scope		Topic	
Systemic	42 (60.1%)	Local/Regional	0 (0%)	Fires	26 (37.7%)
Personal	23 (33.3%)	National	52 (75.4%)	Floods	23 (33.3%)
Both	4 (5.8%)	International	17 (24.6%)	Emergency/Disaster	20 (29.0%)

Table 2. News values present within original TCEP stories.

News Value	Min	Median	Mean	Max
Negativity	1	2	1.79	2
Positivity	0	0	0.48	2
Controversy	0	0	0.41	2
Facticity	0	2	1.48	2
Prominence	0	0	0.31	2
Consonance	0	0	0.35	2
Unexpectedness	0	0	0.54	2
Impact	0	2	1.49	2
Personalisation	0	1	0.78	2

Note: News values were coded using an ordinal scale, where 0 = complete absence of any aspect of the news value, 1 = one clear instance of the news value, 2 = at least two clear instances of the news value.

Table 3. Source-related characteristics of media outlets republishing TCEP stories ($n = 215$).

Outlet type		Geographic Scope		Topic	
Legacy	132 (61.4%)	Local/Regional	120 (55.8%)	General	144 (67.0%)
Non-legacy	83 (38.6%)	National	60 (27.9%)	Specialist	71 (33.0%)
		International	35 (16.3%)		

Amplification of TCEP Stories Via Republication (Pathway C)

Most original TCEP stories were only republished a handful of times. However, this distribution was highly skewed, with a few stories getting the bulk of the amplification and some getting none at all (M = 7.88, Mdn = 3, Min = 0, Max = 77). Most of the republishing media outlets amplified only a couple of TCEP stories, but a small number of outlets, including Yahoo! News and Phys.org, republished 15 or more (M = 2.53, Mdn = 2; Min = 1, Max = 25).

To understand the factors driving these republication activities, we calculated negative binomial regressions with content-related factors as independent variables (IVs) and a count variable representing how often the story was republished as the dependent variable (DV). As this model only had 69 cases (i.e., original TCEP stories), we did not include the nine news values individually but instead created a sum index across all nine values (M = 7.6, Mdn = 7, Min = 3, Max = 13, Total Possible = 18) to not overload the model. The model fit with the news value index was very similar to the model without the index (i.e., no news values; $X^2 = 10.5$; Nagelkerke's pseudo $R^2 = 0.14$). However, the model with the news value index was only significant at $p < 0.10$ (df = 5), while the model without the index was significant at $p < 0.05$ (df = 4). In other words, including the news value index did not improve the model; as such, we present only findings from the model without the index here (for full results of both models, see Tables 3a and 3b, Appendix).

In both models, this analysis revealed that providing systemic (rather than individual) solutions to support emergency preparedness doubled the chances that a TCEP story would be republished by another media outlet (IRR = 1.95, $p < 0.05$). Having a national (rather than international) geographic story scope similarly doubled the odds that a story would be republished (IRR = 1.96, $p < 0.10$). Neither the news values present in a TCEP story nor the type of disaster it focused on significantly influenced whether it was republished.

Amplification of TCEP Stories Via Facebook Posting (Pathways A and D)

Much like the republication patterns, Facebook post data was highly skewed, both for original TCEP stories (M = 3.97, Mdn = 0, Min = 0, Max = 39) and republished stories (M = 0.75, Mdn = 0, Min = 0, Max = 44). That is, the majority of TCEP stories were never posted to public spaces on Facebook, neither in their original nor republished form. (It is possible that they were shared privately by Facebook profiles or on Facebook Messenger, but such activities are not covered by CrowdTangle data.) Interestingly, the original stories that were most often posted to public spaces did not always align with the republished stories that were most often posted. For instance, the most frequently posted original TCEP story was titled "There are 10 catastrophic threats facing humans right now, and coronavirus is only one of them"[7], whereas the most frequently posted republished story—republished by the Australian Broadcasting Corporation (ABC)—was titled "We have already had countless bushfire inquiries. What good will it do to have another?"[8]

To understand the source- and story-related factors contributing to these amplification patterns, we distinguished between two model variants: one examining the features of 69 original TCEP stories (Pathway A), the other analysing the features of 544 republished TCEP stories (Pathway D). We did not calculate the first model variant, as 51 of the 69 original TCEP stories were never posted to public spaces on Facebook, and therefore, the DV showed very little variance. Additionally, there were too many predictors for such a small number of cases, causing very high standard errors and imprecise estimations of incidence ratio ratios.

For the second model variant (Pathway D), we first examined how source-related factors associated with republished TCEP stories impacted how often they were posted to Facebook. To do so we fit a zero-inflated negative binomial regression (ZINB), using the republishing media outlet's type, topical focus, and geographic scope as IVs and the number of times the republished story was posted to Facebook as the DV. Because so many republished stories were never posted to a public Facebook space, the estimation of the zero-inflated part of the model was poor. As such, we present only results of the count part of the model (for full results see Appendix, Table 4). Nevertheless, the model fit of the entire ZINB was very good ($X^2 = 168.07$; df = 8; $p < 0.001$).

The results of the count model suggest that the type of media outlet republishing a TCEP story significantly impacted how many times it was posted to Facebook, with stories republished by legacy outlets gaining more traction than those in less traditional media (IRR = 3.44, $p < 0.01$). In contrast, being republished by a local/regional media outlet (rather than an international one) significantly decreased the number of times a republished story was posted to Facebook (IRR = 0.12, $p < 0.001$). Being republished by

an outlet focused on general news more than doubled the number of Facebook posts sharing the story (IRR = 2.36; $p < 0.05$).

We next fit a second ZINB to assess the impact of content-related factors (i.e., type of emergency, news values, geographic scope of the story) of a republished TCEP story on whether it would be posted to Facebook (zero-inflated part of model) and the number of times it was posted (count part of model). The likelihood ratio test showed a slightly worse model fit for the content-related characteristics than for the source-related ones ($X^2 = 123.49$; df = 26; $p < 0.001$).

Several news values were significant in the zero-inflated part of the model, suggesting that these values impacted whether and how often a story was posted to Facebook. Specifically, being high in positivity (OR = 21.20, $p < 0.001$), prominence (OR = 47.90, $p < 0.01$), and personalisation (OR = 1.46, $p < 0.10$) significantly increased the odds that a republished TCEP story would be posted to Facebook at least once. In contrast, stories high in consonance (OR = 0.01, $p < 0.01$) and impact (OR = 0.08; $p < 0.01$) were significantly less likely to be posted. In addition, stories about floods (OR = 0.09, $p < 0.05$) and fires (OR = 0.02, $p < 0.001$) were less likely to be posted than stories about climate-related emergencies in general. Furthermore, stories with a national story scope were more likely to be posted on Facebook than stories with an international scope (OR = 56.93; $p < 0.01$).

In the count model, having a national story scope (IRR = 2.00, $p < 0.10$) and focus on fires (IRR = 2.49, $p < 0.10$) led to a higher number of Facebook posts. Meanwhile, personalisation reduced this number (IRR = 0.43, $p < 0.10$). No other IVs were significant (see Appendix, Table 5 for full results).

Amplification of TCEP Stories Via Facebook Engagement (Pathways B and E)

Finally, we examined engagement patterns for the 18 original and 94 republished TCEP stories that were posted to public spaces on Facebook at least once. These stories collectively generated 675 posts, but again the data were highly skewed. That is, only a small number of stories generated notable engagement, whether in their original form (M = 0.435, Mdn = 0.087, Min = 0, Max = 3.49) or as a republished story (M = 0.11, Mdn = 0.017, Min = 0, Max = 1.62). Again, the stories that received the most engagement in original form often differed from those that were engaged with most in republished form. For instance, the most engaging original TCEP story was titled "5 ways climate-driven ocean change can threaten human health,"[9] whereas the most engaging republished story was a Phys.org story titled "Strength from perpetual grief: How Aboriginal people experience the bushfire crisis."[10]

To better understand these patterns, we fit two models to examine the source- and content-related factors that predict Facebook engagement with the 675 stories that had been posted to Facebook at least once, either in their original or republished form. Specifically, we fit a logistical regression model with the Facebook engagement as a DV (0 = no engagement, 1 = engagement) and source- and content-related factors as IVs. We also fit a negative binomial model with normalised Facebook engagement score as a DV. In both models, we included an additional variable to indicate whether a story was an original TCEP story. We also excluded the variable *Outlet Topic: General News*, as it was highly correlated with *Outlet Type: Legacy Media* (r = 0.81) (see Figure 2, Appendix, for full variable correlation matrix).

We ran a logistical analysis that included both content- and source-related factors as IVs. Two content-related factors decreased the probability that a given story would receive Facebook engagement, namely: a focus on floods (OR = 0.57, $p < 0.05$) and a high level of controversy (OR = 0.61, $p < 0.10$). In contrast, including a systemic solution for emergency preparedness increased the chances a TCEP story would receive engagement on Facebook (OR = 1.56, $p < 0.10$). The likelihood ratio test suggested the predictors improved the model compared to the null model ($X^2 = 31.48$, df = 18, $p < 0.05$, Nagelkerke's Pseudo-$R^2 = 0.06$). Full results are available in Table 6 of the Appendix.

The negative binomial model told a different story, with several source-related factors having a significant impact on a story's Facebook engagement rate. Specifically, when holding all other variables constant, original TCEP stories (IRR = 3.56) and those republished by national media outlets (IRR = 2.37) were engaged with more frequently, whereas stories high in negativity (IRR = .51) or unexpectedness (IRR = .45) were engaged with less frequently (all ps < .05). All other DVs were nonsignificant (see Table 7, Appendix, for full results) and the likelihood ratio test found the model to have a good fit ($X^2 = 70.75$, df = 18, $p < 0.001$, Nagelkerke's Pseudo-$R^2 = 0.14$).

Discussion

In the digital media ecosystem, news can reach audiences through multiple, interconnected pathways, including traditional news websites but also republication by other media outlets (Hermida, Varano, and Young 2022) and posting by social media users (Kligler-Vilenchik et al. 2020). As people increasingly rely on these indirect pathways to news (Newman et al. 2023; Nielsen and Fletcher 2023), understanding how multiple forms of digital amplification intersect to bring news to audiences is crucial (Fleerackers et al. 2022). This study investigates this complex intersection. Using a sample of climate emergency-related stories published by *The Conversation*, we shed light on how content- and source-related factors coalesce to determine which stories gain traction via these interconnected amplification pathways.

With respect to content-related factors, we found that emergency preparedness stories with a national scope and stories that offered systemic (rather than individual) solutions were more likely to be republished by other news outlets. These same qualities also impacted whether and to what extent stories gained traction in public spaces on Facebook, as nationally relevant stories were more likely to be posted to the platform and those advancing systemic solutions more likely to be engaged with. Other content-related factors also played a role in whether and how much the stories were amplified on Facebook. For instance, stories focused on floods were less likely to be posted to the platform or engaged with. These findings align with those of prior studies, which have similarly found that the type of climate emergency plays a role in the amount of attention it receives online (Al-Saqaf and Berglez 2019; Sisco, Bosetti, and Weber 2017).

Importantly, stories characterised by a high positivity news value were more likely to be posted, and those high in negativity less likely to be engaged with. These findings complement existing research on constructive journalism, which to date has largely focused on how solutions-oriented stories impact audience behaviours and emotions (Lough and McIntyre 2023), rather than their online engagement with news. These findings, however, are at odds with Robertson et al. (2023), who found that audiences

were more likely to click on news stories with headlines containing more negative words. They also contrast with Schöne, Parkinson, and Goldenberg's (2021) finding that negativity (but not positivity) predicted which tweets were most frequently retweeted on Twitter (now X). It is possible that these differing results relate to the different topics, platforms, and associated national media systems under investigation (Kalsnes and Larsson 2018; Nielsen and Fletcher 2023; Schöne, Parkinson, and Goldenberg 2021; Sisco, Bosetti, and Weber 2017), as neither Robertson et al. (2023) nor Schöne, Parkinson, and Goldenberg (2021) focused on climate-related emergencies, Facebook, or Canada or Australia. We thus join other scholars (Hase, Boczek, and Scharkow 2023; Zander et al. 2022) in calling for more cross-platform and cross-topic studies of news amplification.

In testing the role of news values in both republication and public Facebook engagement, our study extends existing research examining the different ways news values inform journalists, editors, and social media users' perspectives of a story's newsworthiness (Harcup and O'Neill 2017; Wendelin, Engelmann, and Neubarth 2017). Notably, we found that several news values were key in whether and how often stories were posted and engaged with on Facebook, but played no significant role in how often stories were republished by other media outlets. That is, news values seemed to be more important for Facebook audiences than for media outlets republishing *The Conversation* stories.

This seemingly counterintuitive finding may be explained, in part, by *The Conversation*'s editorial model. In this model, academics pitch and produce stories, but professional journalists decide which pitches to accept and how they should be edited for publication. Like other professional journalists, these editors likely rely heavily on the news values of a story during these decisions (Bednarek and Caple 2012; Galtung and Ruge 1965). As such, these stories are likely selected and written in ways that make them newsworthy enough for any media outlet to republish—a possibility that is supported by the high prevalence of news values in every story in our sample. Facebook users, in contrast, may be attracted to more specific news values. That is, they may be less concerned with whether a story is newsworthy in general, but rather with whether it contains news values that resonate with them. On a practical level, this finding suggests that selecting potential stories based on the mere presence of news values may not be sufficient for attracting audiences in a social media-driven digital media ecosystem (Newman et al. 2023). Instead, journalists and editors may need to focus on whether stories align with the specific values that are important to their audiences.

Alongside characteristics of the stories themselves, source-related factors—such as the geographic scope and type of media outlet republishing it—played an important role in both Facebook posting and engagement but did so in complex and sometimes conflicting ways. For instance, although stories republished by local media outlets were more likely to be posted to Facebook, those republished by national outlets were more frequently posted and received more engagement. These findings complicate results of prior studies (Lepird et al. 2024; Pearce et al. 2019) by revealing how the factors that determine *how often* a story is shared can differ from those that impact *whether* it is shared at all. Future research is needed to understand the reasons underpinning these differing patterns of Facebook amplification, and whether these same patterns also hold true for media stories on other topics.

Alongside these scholarly contributions, this research has important implications for journalists, editors, and social media audiences. Specifically, our findings suggest that

when reporting or republishing news about climate disasters, journalists and editors may be able to expand their reach by taking a constructive, positive, and evidence-based approach—aligning with fundamental principles of constructive journalism (Hermans and Drok 2018; Hermans and Gyldensted 2019). In addition, highlighting systemic solutions for addressing these crises may support greater social media engagement, suggesting that editors' preference for republishing these types of stories may be effective. Indeed, a recent review (Ojala 2023) found that hope can be an important factor driving (online and offline) engagement with climate change among individuals who are already worried. It is possible that audiences may be drawn to more positive and hopeful stories when faced with negative events such as the climate emergencies that occurred during the data collection period (i.e., 2019–2022). More research is needed to determine whether constructive approaches lead to similar gains in engagement for news coverage of other emergencies or crises, on Facebook and elsewhere.

At the same time, our findings raise concerns about the future of local media outlets and the audiences they seek to serve. In countries such as Australia and Canada, many local news bureaus have closed or been subsumed by major news conglomerates that syndicate national stories under local mastheads (House of Representatives Standing Committee on Communications and the Arts 2022; Lindgren and Corbett 2024). The local outlets that remain often have fewer resources to produce original content and rely heavily on information subsidies, including stories from other media outlets (Allan 2022). Perhaps as a result, local outlets were the most frequent republishers of *The Conversation* stories. Yet these same stories were less frequently posted to Facebook than stories republished by outlets with a broader geographic scope—perhaps because they were overwhelmingly written with a national or international audience in mind. Shifting funding models may further exacerbate this trend, as in countries like Australia, paywalls on local news are increasingly common, potentially deterring audiences from engaging with these stories. Finding ways to support local and regional outlets in producing original coverage of floods, fires, and other disasters that will resonate with their communities is thus essential. Such locally relevant coverage is especially important given that the impacts of these emergencies can vary widely, even within the same country (World Economic Forum 2024), and people in communities with the least access to local news are often those with the least social and economic resources (Abernathy 2018; Hamilton and Morgan 2018). Notably, since gathering the data for this research, a locally focused edition of *The Conversation* was launched in four US communities (Benton 2025). Future research could investigate whether local republishers that make use of this new initiative have more success engaging Facebook audiences.

This study is not without limitations. While the 69 TCstories we studied provide an ideal lens for examining the intersections of news republication and social media amplification, they are by no means representative of all climate emergency-related news, let alone news more broadly. The same is true of the media outlets republishing these stories. While these outlets represent a diversity of topics, types, and geographic scopes, a small number of outlets (e.g., Yahoo! News, Phys.org) drove republication of TCstories, limiting the generalisability of our findings. Future research will be essential for determining whether the same content- and source-related factors we identified as facilitators of news republication and Facebook amplification are also relevant for stories on other topics, regions, and time periods, as well as for those (re)published by other outlets.

Similarly, it is likely that our findings may have looked different had we examined another social media platform, captured private (rather than public) Facebook engagement, or even replicated this study today, as the algorithms and policies that shape news visibility on platforms such as Facebook are continually evolving (Evershed and Taylor 2024; McNally and Bastos 2025; Meese and Hurcombe 2021). Relatedly, since conducting this research, Meta has chosen to discontinue CrowdTangle (Gotfredsen and Dowling 2024), the tool we used to gather our Facebook data, meaning our method is no longer reproducible. It is thus crucial that digital journalism scholars develop new methods for gathering social media data independent of the companies that own these platforms (Bruns 2019a; Burgess and Hurcombe 2019). Else, our ability to scrutinise these increasingly powerful actors, especially regarding long term trends, may be severely compromised.

Conclusion

In the global digital media ecosystem, people engage with news as just one component of complex media assemblages that include traditional legacy media outlets as well as nontraditional actors such as republishers and social media platforms (Chadwick et al. 2021; Newman et al. 2023). To develop policies and practices that ensure audiences within this ecosystem have access to quality, evidence-based news, it is crucial to understand the nuances of how and why news is amplified (and accessed and engaged with) across these diverse digital spaces. As a first step toward this understanding, this study highlighted the factors that shape the amplification of climate emergency stories via news republication and social media engagement. Our results show that news amplification is a multi-stage process involving various actors such as journalists, editors, republishers, platforms, and social media users. At every stage of this process, characteristics of news stories combine with those of the sources they are published in to drive or slow down news amplification. In other words, to reach audiences in this amplification-driven news environment, content matters—but so does the outlet that (re)publishes it.

Notes

1. https://theconversation.com/au/audience.
2. https://theconversation.com/ca/republishing-guidelines.
3. https://www.altmetric.com/.
4. Altmetric collects all "mentions" of TC stories by searching media outlet webpages for hyperlinks to TC stories or text-based mentions of key metadata (e.g., TC story publication date, author names, etc). As such, the Altmetric data included a combination of republished TCEP stories and original media stories linking to or mentioning a TCEP story.
5. We combined these two search terms into one category, as there was only one story in the final sample associated with the search term "disaster" and "disaster" and "emergenc*" both suggest a broader focus on climate emergencies rather than specific crises, such as floods and fires.
6. https://www.rdocumentation.org/packages/pscl/versions/1.5.5/topics/vuong.
7. https://theconversation.com/there-are-10-catastrophic-threats-facing-humans-right-now-and-coronavirus-is-only-one-of-them-136854.

8. https://www.abc.net.au/news/2020-01-16/we-do-not-need-bushfire-royal-commission-this-is-why/11870824.
9. https://theconversation.com/5-ways-climate-driven-ocean-change-can-threaten-human-health-162341.
10. https://phys.org/news/2020-01-strength-perpetual-grief-aboriginal-people.html.

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Author contributions

CRediT: **Alice Fleerackers:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing; **Ines Engelmann:** Conceptualization, Formal analysis, Methodology, Visualization, Writing – review & editing; **Michelle Riedlinger:** Conceptualization, Data curation, Investigation, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing; **Kim Osman:** Conceptualization, Data curation, Investigation, Methodology, Validation, Writing – review & editing; **Laura Vodden:** Data curation, Investigation, Methodology, Writing – review & editing; **Katharina Esau:** Data curation, Investigation, Methodology, Validation, Writing – review & editing; **Arjun Srinivas:** Conceptualization, Data curation, Investigation, Methodology, Validation; **Axel Bruns:** Data curation, Writing – review & editing.

Dedication

This paper is dedicated to the memory of Arjun Srinivas. Although he is no longer with us, Arjun's contributions to digital media research continue to shape our research into platformised news sharing practices.

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Data Availability Statement

Codebooks used for the content analyses are available on OSF at the following DOI: 10.17605/OSF.IO/D4QU9. Our partnerships with TCMG and CrowdTangle prevent us from making our data publicly available.

ORCID

Alice Fleerackers http://orcid.org/0000-0002-7182-4061
Ines Engelmann http://orcid.org/0000-0002-3236-9895
Michelle Riedlinger http://orcid.org/0000-0003-4402-4824
Kim Osman http://orcid.org/0000-0002-9733-0959
Laura Vodden http://orcid.org/0009-0004-6792-8580
Katharina Esau http://orcid.org/0000-0001-7450-6010
Axel Bruns http://orcid.org/0000-0002-3943-133X

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