Volume 9 Number 9 November 2021

DIGITAL JOURNALISM

Digital Journalism

Routledge Taylor & Francis Group

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rdij20

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To cite this article: Kenza Lamot (2021): What the Metrics Say. The Softening of News on the Facebook Pages of Mainstream Media Outlets, Digital Journalism, DOI: 10.1080/21670811.2021.1974917

To link to this article: https://doi.org/10.1080/21670811.2021.1974917

DIGITAL JOURNALISM
https://doi.org/10.1080/21670811.2021.1974917

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ORIGINAL ARTICLE

What the Metrics Say. The Softening of News on the Facebook Pages of Mainstream Media Outlets

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ABSTRACT

The contemporary high-choice media environment, characterized by information abundance, makes it increasingly difficult for media outlets to capture audience attention. This concern is particularly pressing for social media, and more specifically for Facebook. Because user engagement is a crucial input factor for the algorithm, fears have risen that journalistic content on digital news media and especially on social media is becoming softer to help adjust to news consumer's interests. A content analysis was conducted on four consecutive weeks of all news items published online by five market-leading Belgian media outlets ($N = 10{,}579$) in order to analyse whether the news supply is adapted to "what the metrics say" and, subsequently, to what extent that metric data is used to promote a "softer" supply of news on Facebook. To measure audience engagement, we used unique metrics provided by the news organizations themselves. The results show that audience metrics support and enhance news softening on the Facebook pages of mainstream media outlets.

KEYWORDS

Facebook; audience engagement; metrics; analytics; soft news; content analysis

Introduction

The contemporary high-choice media environment, characterized by information abundance, makes it increasingly difficult for media outlets to capture audience attention (Fletcher and Nielsen 2017). Journalists have turned to audience analytics and metrics, systems and software that enable the measurement, collection and analysis of digital data on user behaviour, in order to draw the audience back in (Zamith 2018). Debates around the topic have been marked by the fear that market-driven journalism will lead to a "dumbing down" of news in which journalism would be no longer able to fulfil its information function in society (Tandoc 2015; Tandoc and Thomas 2015). The idea is that when journalists start to focus on stories that are likely to be popular, "the news as a whole could start to shift toward a more populist, 'soft news' style of news publishing, where entertainment is prioritized over information" (Bright and Nicholls 2014, 172).

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Supplemental data for this article is available online at https://doi.org/10.1080/21670811.2021.1974917.

This concern is particularly pressing for social media, and more specifically for Facebook. As Facebook has become an important news source for many people in recent years (Newman et al. 2019), news outlets have felt the urge to publish on these platforms in order to find new audiences and to increase revenues (Hille and Bakker 2013). On Facebook however, the visibility of news content, and thus the likelihood of attracting audience attention, is largely dependent on the Facebook algorithm (Bucher 2012; DeVito 2017). News outlets thus lose some control over the distribution of news, as the algorithmic recommender systems curate content according to user preferences and engagement (Lischka, 2021). As a consequence, this algorithmic logic of Facebook might alter news making conventions, and ultimately, shape the news supply on Facebook. Therefore, news softening might be present to a stronger degree on Facebook as a means to strike a balance between news consumer's interest and traditional journalistic standards (Steiner 2020).

A few content analyses have already shown how the news supply on social media is adapted to user preferences, leading to an increase in soft news at the expense of harder, quality content (Lischka 2021; Lischka and Werning 2017; Steiner 2020). Although most of this research departs from the premise that there is a close connection between user engagement and news softening, none of them actually account for the demand side of news. The present study aims to contribute to this knowledge gap by looking at the interplay between news demand (what audiences actually pay attention to) and news supply (the selection of the journalists). We conducted a content analysis in order to gain insight into whether the news supply is adapted to "what the metrics say" and, subsequently, to what extent that metric data is used to promote a "softer" supply of news on Facebook. To measure audience engagement, we were granted unlimited access to the Google Analytics platform or in-house dashboards of the newsrooms.

Theoretical Framework

Catching Audience Attention and News Engagement

In the history of news production, news publishers faithfully assumed that their content reached large audiences (Williams and Carpini 2011). The development of online journalism, however, has altered the dynamics of how audiences consume news, giving them increased control and choice over what and how they consume news (Bruns 2008; Napoli 2011). Due to greater audience autonomy, news consumption is no longer concentrated in a few outlets but increasingly fragmented across an abundance of news outlets that all have to compete among another (Trilling and Schoenbach 2013; Webster and Ksiazek 2012). What follows is a media ecosystem in which news organizations are continuously on the lookout for audience attention, now a highly coveted and increasingly scarce commodity (Webster 2014). Given that audience attention has also grown to be of monetary value in the form of advertising or reader revenue (Myllylahti 2020), paying attention to usage patterns has become paramount in journalism. In order to secure the attention of the "spoiled" and easily distracted consumer, the news must become more responsive to the the wishes and needs of that consumer. Hence, it has become more important for news organizations to optimize

the flow of information between their editorial and business departments to learn what their audience wants and subsequently, provide them with that content in order to navigate an ever-more competitive battle for attention.

Primarily, the digital media environment has contributed to the datafication of audience behaviour through quantitative data (Livingstone 2019) and has subsequently fostered a more "data-driven audience understanding"(Wang 2018, 2). Audience analytics and metrics have allowed news organizations to observe in increasingly granular detail how the news user behaves and to anticipate in real-time what kinds of content will appeal to the audience in terms of pageviews, amount of viewing time or social media interactions (Anderson 2011; MacGregor 2007; Napoli 2011; Vu, 2014). Several studies have already shown that analytical information seems to affect journalists' decisions on news selection and distribution. For example, when traffic figures signal that a story is popular, editors often react by placing this story more prominently on the homepage while less popular stories are moved further down or even removed completely (Bright and Nicholls 2014; Lamot and Van Aelst 2020; Lee, Lewis, and Powers 2014; Tandoc 2014). Other work illustrates that when a particular topic is doing well, editors will instruct journalists to expand coverage on that topic (Karlsson and Clerwall 2013; Lamot and Paulussen 2020; Moyo, Mare, and Matsilele 2019; Welbers et al. 2016). In the long run, audience analytics point out which topics generally attract a lot of traffic, lowering the threshold to plan more coverage on them in the future (Arenberg and Lowrey 2019; Tandoc 2019). However, there is also a stream of work that that has indicated relatively limited impacts of analytics on journalistic behaviours. Lamot and Van Aelst (2020) and Nelson and Tandoc (2019) for example, showed that news editors are willing to let audience analytics inform their news decisions, but only when it comes to "soft news." Furthermore, there is evidence that also news formats and styles of news presentation have changed under the influence of audience metrics. One traffic-driven development is the increased use and importance of visual content (graphics, photos and videos) (Duffy, Ling, and Tandoc 2018). Next, research indicates that news stories are often modified to boost traffic by changing the headlines or adding videos and pictures (Bélair-Gagnon 2019; Hagar and Diakopoulos 2019).

Taken together, the emergence of all these different metrics-driven practices has led to a widespread concern among researchers and practitioners that it would bring journalists to adopt a more market-oriented approach to journalism (Ferrucci 2020; Hanusch and Tandoc 2019; Tandoc and Thomas 2015). If journalists were to follow this market logic, they would use audience analytics and metrics to pursue the content that is the most popular, serving the largest possible audience audience that communicates its preferences through clicks, likes, shares (Tandoc and Vos 2016). However, what the audience wants and what it needs are two ostentibly different things. Boczkowski and colleagues empirically investigated this want vs. need dichotomy and arrived at the conclusion that a "news gap" exists between what news professionals provide and the news that news consumers apparently desire. They showed how the preferences of the audiences tend to gravitate towards softer news content over hard news as opposed to the preferences of journalists (Boczkowski, Mitchelstein, and Walter 2011; Boczkowski and Peer 2011). As increased competition leads news

organizations to embrace market logic, journalists might insist on the narrowing of this gap by actually "catering" to what news users express through metrics. If metric patterns "show" that users prefer the softer, junk news, one way to bridge that gap might be accommodating to the news consumers' demand. In her systematic review, Fürst (2020) argues how datafication has hence established new norms of judgement. She suggests that the use of audience metrics has not only stimulated the selection and more prominent placement of soft news but also the tabloidization of formats and styles of news presentation.

The belief that a stronger focus on economic gains will lead to a dumbing down of news content is not new (Kvalheim and Barland 2019). However, audience datafication has prompted revived attention to news softening, which carries echoes of the tabloidization debate. Scholarly research dating back to the late eighties has discussed tabloidization in terms of the substantive transformations in the form of presentation and the content of news coverage that are underway at different types of news media operating under increasingly economic pressure (Esser 1999; Hauttekeete 2004). A central argument in these strands of literature is that there is a persistent shift in the supply of so-called "soft news" at the expense of "hard news." This softening of news can be studied on different levels, including media ("tabloidization"), genre ("infotainment") and content (between and within articles). On the content level, many scholars make a dichotomous distinction between "hard" and "soft" news. According to Reinemann et al. (2012) the hard/soft classification can be used to examine different dimensions of news softening. On the one hand, they identify a *topic dimension*, which implies a classification on the basis of the topic of the news item. News topics such as politics, economy or science and technology are traditionally considered as hard news, while reports about celebrity, health, lifestyle, media and entertainment are often understood to be soft news topics (Curran et al. 2010; De Swert 2007). On the other hand, Reinemann et al.'s conceptualization also comprises a *focus and a style dimension* to take into account that classifying entire topics as purely hard or soft is perhaps too crude a measure (Otto, Glogger, and Boukes 2017). Seemingly soft topics might also be framed as socially relevant, while hard news topics may be presented in a human interest or sensational manner. The latter dimension thus accounts for this limiting approach and refers to how a news story can also be presented in a softened "way" in terms of framing or visual style elements. Since softening of news is thus a longstanding concern, it is reasonable to suspect that audience metrics will accelerate this process. Therefore, we ask:

> RQ1: To what extent might audience metrics contribute to the softening of the news supply on the news outlets' websites and Facebook pages?

Online news outlets seek to attract large shares of online attention to keep their audience engaged. Audience engagement is often defined as a broad phenomenon that describes all sorts of user attention and involvement with media (Napoli 2011). In analogy with Ksiazek, Peer, and Lessard (2016), we conceptualize engagement as an array of various metrics ranging from mere exposure to more interactive user behaviour. For a long time, online news media have predominantly relied on measures of exposure to gauge their audiences. Pageviews, also referred to as "clicks" or "hits," are recorded whenever a page is viewed by the news reader by any method such as

clicking on a link, typing in a URL or refreshing a page (Cherubini and Nielsen 2016; Petre 2015). These metrics have been taken at face value by both researchers and media professionals alike as primary measure of popularity or preference (Porten-Chée et al. 2018; Schaudt and Carpenter 2009; Tenenboim and Cohen 2015). For instance, most-viewed lists often seem to be dominated by entertainment, crime and sports news, indicating that news users prefer softer news over news about public affairs (Boczkowski and Peer 2011; Tenenboim and Cohen 2015; Tewksbury 2003). Based on past evidence of a preference for soft news among the audience, we assume a positive relationship between pageviews and soft news:

H1: Soft news tends to generate more pageviews than hard news

News organizations are slowly starting to move away from a focus on clicks towards newer integrated metrics of engagement that provide a more complete picture of audience behaviour (Ksiazek, Peer, and Lessard 2016). "Time spent" is generally defined as the amount of time (in minutes or seconds) that visitors have spent on a particular page (Cherubini and Nielsen 2016). Furthermore, it has been proven to be a useful metric for audience attention because it allows comparison across platforms (Thurman, 2018). Time spent has become a key performance indicator in some newsrooms already (Hendrickx et al. 2021), as it is generally considered to be a more valid measure of whether the audience perceives something as meaningful than pageviews, and therefore, is more closely aligned with journalistic values (O'Donovan 2014). Hence, this metric may be used to support claims that the audience is actually more interested in public affairs news than what pageviews seem to suggest (Groot Kormelink and Costera Meijer 2020). A study by von Krogh and Andersson (2016) revealed that there was a significant increase in news associated with public affairs if the focus lay on time spent rather than clicks. We propose the following hypothesis:

H2: Hard news tends to generate more time spent than soft news

In the context of Facebook, audience engagement can also be understood in terms of numbers of likes, shares and comments. These popularity cues form a distinct, more interactive type of engagement than the ones we mentioned above, as they involve a kind of action on part of the user (Ksiazek, Peer, and Lessard 2016). First, liking is arguably the least demanding kind of interaction on Facebook as it only requires one click (Hille and Bakker 2013). The number of likes could be seen as an applicable indicator to assess the degree of public appeal of a post online (Porten-Chée et al. 2018). Larsson (2018) found that news of the softer variety emerged as particularly more likeable. Second, sharing can be seen a somewhat more demanding mode of news usage as it allows users to redistribute content originally posted by the news outlet. In this regard, sharing has become an increasingly important functionality from the point of view of the news organizations to escalate audience attention and boost virality (Kalsnes and Larsson 2018; Larsson, 2018). Kalsnes and Larsson (2018) found that softer news topics are more frequently shared than harder news topics from all media outlets, with sensational and celebrity news being the most successful in terms of gaining "virality." Lastly, the practice of commenting signals a process of even higher elaboration on part of the news consumer compared to liking and sharing. Tenenboim and Cohen (2015) examined the relationship between two mechanisms of online

engagement clicking and commenting, showing that the heavily clicked items were different from the highly commented-upon items. While sensational items were more prominent among the heavily clicked items, political and societal issues were among the most commented-upon news items, which might indicate that news users are actually more invested in the latter. In contrast, Larsson (2018) discovered that the content which succeeded in gaining higher amounts of comments in their analysis dealt more with tabloid or "softer" news items. Given the fact that most functionalities seem to interact more with softer content, we argue that:

H3: Soft news tends to generate more interactions on Facebook than hard news

Facebook's Effect on News Softening

There also seems to be a particularly strong association between metrics-driven practices of journalism and the relevance that social media platforms and their algorithms have for the distribution and consumption of news (Loosen 2018). Initially, news outlets were eager about partnering with social media such as Facebook (Stassen 2011) towards creating audience engagement and by striving towards expanding advertising exposure via click-through traffic to their sites (Steensen and Westlund 2020). As Facebook grew to replace the news sites as place where audiences find news, many news outlets have been keen to adjust their editorial strategies to comply with the type of content that the News Feed algorithm was promoting (Poell and van Dijck 2014). Tandoc and Maitra (2018) observed how news companies altered their postings in response to the algorithm as they feared they would otherwise risk losing audience attention and traffic. The fact that Facebook has hence acquired the upper hand over news content and distribution has led authors to coin the concept of a "platform-press" that has been found to have "reengineered journalism"(Bell and Owen 2017).

However, the eagerness to work in tandem with Facebook has dropped in 2018 when the company announced that it would henceforth deprioritize traditional news stories in its News Feed in favour of posts produced by user's friends and family, resulting in a drastic decrease of exposure of and engagement with news on the platform. The Facebook MSI algorithm has resulted in a massive shift in revenue models because advertising revenues have migrated mostly to the platform itself (Kaye and Quinn 2010), while news outlets have attempted to monetize their readership. Yet, "a fear of missing out" at the same time prevents news outlets to stop engaging with the platform (Kleis Nielsen and Ganter 2018). According to Myllylahti (2018) the reason for this is that news outlets are being caught in an "attention economy," which implies that they will continue to distribute and market their content on the platform in order to chase audiences and eyeballs. Moreover, to be part of the News Feed, news organizations are urged to rely on platform data and attention metrics that act as online currency (Myllylahti 2020) and simultaneously as popularity cues for practitioners and users alike (Haim, Kümpel, and Brosius 2018).

As a consequence, Hågvar (2019) argues that news organizations on social media need to adjust to the rules of the platforms for whom journalistic norms remain under continuous negotiation. Whereas selection and presentation of content on their own websites is prompted by journalistic logic, the algorithmic selection logic of Facebook

is biased towards the popular and what generates meaningful social interactions. To chase readership and grab their attention on these platforms, journalists and publishers may therefore be incentivized to promote softer and lower-quality content (Lischka 2021; Steiner 2020). However, relatively little studies have empirically investigated whether concerns about news softening are more prevalent on Facebook compared to traditional and online outlets. Through content analysis, Lischka and Werning (2017) compared the print editions of three regional German newspapers with their respective Facebook pages in terms of topic selection. They found that the outlets posted a significantly greater share of soft news items on Facebook, not only to ensure reach but also to lure audiences to more important hard news items. Next, Lischka (2021) noted that topics such as health and entertainment were posted more often on Facebook compared to the news outlet's website, and this to the disadvantage of (foreign) politics and economic news. She found that hard news topics were also given more lightweight characteristics by social media editors in order to be appropriate for social media. Similarly, Hågvar (2019) notes how Norwegian journalists have developed soft news presentation strategies on Facebook, focussing more on emotions and subjective language. A study of Magin et al. (2021) shows that the news supply of quality newspaper FAZ is slightly more softened online and on Facebook, while the trend towards news softening for the tabloid newspaper BILD was, counter-intuitively, less pronounced in comparison with its offline news supply. Furthermore, Steiner (2020) analysed news softening in political Facebook posts of four German media outlets. She draws the comparison between Facebook posts and website teasers to examine whether news softening is stronger on Facebook than on news websites. The study indicates that while news softening is higher on Facebook, the overall degree of news softening is low to medium across all outlets, hence alleviating fears that normative quality standards are degenerating. All-in-all, these studies seem to suggest an adjustment of standards of news making for social media news that results in changes to the social media news supply (see also Lischka, 2021). It is likely to assume that social media editors also turn to audience analytics to guide these decisions as the engagement-rewarding algorithm of Facebook becomes observable through these metrics. Studies suggest that social media editors tend to promote content that is already attracting lots of traffic, hoping to lure more readers to the news sites that way (Lischka 2021; Tandoc 2014). Therefore, this study aims to address the following hypothesis:

> H4: The news supply on Facebook is softer in terms of news topics and style than the news supply on the news outlet's website

Method

To address our hypotheses and research questions a partially computational content analysis was conducted on four consecutive weeks (January 13 – February 14, 2020) of all news items published online by five market-leading Belgian Dutch-speaking media outlets. Two of the news outlets are generally regarded as popular newspaper brands: *Het Laatste Nieuws* and *Het Nieuwsblad*, whereas newspapers *De Standaard* and *De Morgen* and the public service broadcaster *VRT* are considered to be quality news

brands. An appropriate interpretation of our results requires some additional contextual information on the Belgian case-study. The Belgian media market is generally deemed quite stable. It has a strong public service broadcaster VRT that manages to reach a large audience and is also taking the lead in terms of reach online. The four other outlets under study belong to two international media companies (*DPG Media* and *Mediahuis*) that still succeed to make profit and have hence undergone the digital transition quite successfully. All together, these five Flemish legacy news media are the most important brands in terms of weekly reach offline and online.[1] However, despite the financial stability of the media groups to which they belong, digital news media in Flanders, like elsewhere in the world, are operating under commercial pressure as large players such as Facebook and Google have been skimming off significant shares of local online advertising markets, which for Belgium alone amounts to over 500 million euros according to the Flemish Media Regulator 2020 (274). Besides, due to only moderate success and implementation of paywalls (Evens and Van Damme 2016), subcription revenues have currently been unable to compensate for these losses. In such conditions, Belgian news media still have to turn to Facebook for their distribution, audiences, revenues and so on, but are not completely dependent on it. We believe that this constellation allows for the generalisability of our study's findings to at least other countries in Western Europe.

Units of analysis are the individual news items published on the news websites of the five outlets. An RSS-script and a crawler were developed to automatically collect and store all news articles in full-text, with their unique URL. The articles were automatically coded for the variables "article length," "date/time of publication" and "media outlet." For the purpose of this study, regional coverage, sports results, traffic reports, daily weather forecasts and concert/movie reviews were discarded from further analysis as we decided to focus on "news" in the formal sense of the word. The ommission of those articles happened part automatically, part manually. For some outlets these stories were identified through the news item's URL (e.g., /sport/, /regional/). However, sometimes they still ended up in the dataset. Coders received the instruction to identify these stories by reading the headline/lead and checking under which highlighted tabs the article was categorized ("Region," "Sport") and then to delete them. This eventually resulted in a dataset consisting of 10,579 articles. In total, 1,431 articles were coded from *VRT*, 1,140 from *De Standaard*, 1,126 from *De Morgen*, 3,145 from *Het Nieuwsblad* and 3,737 from *Het Laatste Nieuws*.

To measure audience engagement, we use metrics provided by the media companies, which measure the number of pageviews and time spent per article. Additionally, we extracted how many interactions (e.g., likes, reactions, comments, shares) a news item received through CrowdTangle, a public insights tool operated by Facebook that tracks posts on public Facebook pages. Our research is in this sense unique as metrics tend to be accessible exclusively through the news organizations themselves, which are generally rather reluctant to share this information. The three media companies measure pageviews and time spent through different software, which makes comparative research problematic as divergences between outlets could be caused by differences in what the data capture.[2] However, that poses no problem for the analyses in this study. The number of pageviews and time spent for every article was monitored

for 24 h after publication. The engagement for each news item URL was monitored for 7 days after publication.

To measure the second key concept of this study, "news softening," we automatically flagged which articles were posted on the official Facebook pages of the news organizations by cross-referencing our dataset with data from CrowdTangle. A news article was given code one if it was redistributed to Facebook, while it received code 0 when the article did not appear on Facebook. What is important to note is that the news website was taken as a point of departure ($N = 10{,}579$). Facebook presence, the 30% of all articles in the dataset promoted on the news organization's website that were subsequently promoted on Facebook ($N = 3{,}163$), is used as a dependent variable in our regression analysis.

Subsequently, a team of four trained coders manually coded the news items on a range of other variables, of which the most important ones for this study are discussed next. The *topic of a news item* is a commonly used classification to differentiate between hard and soft news (HSN). We drew upon a detailed codebook provided by the Electronic News Archive (ENA), containing more than 43 topics out of which coders could attribute one to the news item. We recoded these original issue codes in twelve broader topic categories being: (Inter)national Politics, Law Enforcement/Crime, Economy/Finance, Social Affairs, Wars/Disasters/accidents, Science/Technology/Education, Mobility/infrastructure, Environment/Energy, Culture, Lifestyle/Travel, Media/Entertainment, Celebrity. According to previous scholarship on tabloidization and softening of news, the first eight topics can be understood as hard news topics, whereas the latter four would be included as soft news topics (see also De Swert 2007).

Besides topic classification, *news style* was coded to take into account that an approach solely based on the topic dimension might be limiting (Otto, Glogger, and Boukes 2017). Following the line of inquiry of Reinemann et al. (2012) stating that soft news topics sometimes intersect with hard news, if a news item contained clear indications of sensationalism and/or personalization in the headline and lead of the article, it was given code 1, indicating a "soft news style." Sensationalism was operationalized as journalistic coverage aimed at arousing strong emotional reactions, for example by emphasizing drama or scandal (Grabe, Zhou, and Barnett 2001; Otto, Glogger, and Boukes 2017). For personalization, we looked at whether an article had more of a human interest framing, accentuating a more personality-centered angle of coverage (see also Reinemann et al. 2012). We will analyse news softening on both the topic and the style dimension as well as combined. More information on the operationalization of both the independent variables can be found in the Appendix, supplementary material.

The codebook was pretested by four coders that followed a training course. After the first news week was coded, a subsample of news articles was coded again by each coder and inter-coder reliability was calculated. As some variables approached the critical lower limit of 0.60, coders received an extra training course with elaborate instructions and rectified their previous coding with this newfound knowledge. At the end, inter-coder reliability was calculated again on a random sample of 300 articles. While less than the traditional 10–15% threshold, Lombard, Snyder-Duch, and Bracken (2002) have argued that the appropriate size of a sample for reliability analysis will

rarely need to be greater than 300 units. The inter-coder reliability test resulted in Krippendorf's alpha values ranging from 0.74 to 0.83.

Results

News Engagement on the website and Facebook

To answer RQ1, the analysis focussed on audience engagement with news. Table 1 shows the average engagement that each topic category was able to generate both on the website and on Facebook. News about celebrity, social affairs and the environment and energy were among the most clicked and liked upon items, whereas news about politics, economy and finance and culture and arts were among the least clicked and liked news topics. However, engagement indicators such as time spent signal somewhat different patterns. News users tend to spend more time on topics such as politics, social affairs and science, technology and education. Furthermore, on Facebook the most viral news items were lifestyle and travel, media and entertainment and environment and energy. The most relevant effects are displayed in shaded cells.

To examine the factors determining audience engagement, we relied on negative binomial regression analyses. The first column of Table 2 presents the results of our baseline model (Model I). First of all, on the level of topics, we found that news users are less likely to engage with political news as compared to other topics and this across almost all popularity indicators. News topics such as celebrities, social affairs, and mobility were among the most strongly engaged with topics categories on the website. On Facebook, soft news topics such as lifestyle and travel or media and entertainment did increasingly better than hard news topics such as politics, environment and social affairs. Moreover, we found that soft news style was a significantly positive predictor for audience engagement. As expected, news that is presented in a soft, lightweight style was more likely to attract pageviews and Facebook interactions.

The positive effect of soft news style on people's news engagement, combined with the finding that soft news topics are more popular, underscore our assertion made in H1 and H3: News softening leads to more pageviews and more Facebook interactions. Conversely, we assumed that time spent would favour hard news topics,

Table 1. Average engagement per topic category.

	Pageviews	Time spent (in s)	Facebook interactions (likes, shares, comments)
Celebrity†	34 976	74	711
Social affairs	34 806	108	758
Environment and energy	30 764	85	1112
Mobility and infrastructure	24 293	76	552
Lifestyle and travel†	23 638	68	1394
Law enforcement and crime	22 478	86	701
Media and entertainment†	19 725	86	1151
Science, technology and education	18 803	96	784
War, disasters and accidents	18 276	86	687
Politics	15 612	103	356
Economy and finance	14 191	71	597
Culture and arts†	13 688	87	534

Note. Cell entries are mean values of engagement per topic category. † indicates that a topic was denoted as soft news topic.

Table 2. Negative binomial regression of topics and style: pageviews, time spent and Facebook interactions.

	Model I: main effects			Model II: interaction effects		
	Pageviews	Time spent	Facebook interactions	Pageviews	Time spent	Facebook interactions
News style	0.15***	−0.13***	0.36***	0.13	0.07	−0.36
Topic (ref = Politics)						
Law enforcement/Crime	0.20***	−0.20***	0.64***	0.16***	−0.19***	0.64***
Economy/Finance	0.04	−0.30***	0.45***	0.03	−0.30***	0.42***
Social affairs	0.49**	−0.08*	0.68**	0.51***	−0.05	0.67***
Mobility/Infrastructure	0.64***	0.22***	0.37**	0.68***	−0.25***	0.45***
Environment/Energy	0.33***	−0.12**	0.93***	0.44***	−0.14**	0.77***
War/ Disasters/Accidents	0.11*	−0.14**	0.53***	0.09	−0.13**	0.38**
Science/ Tech/Education	0.13*	0.01	0.69***	0.16*	−0.003	0.69***
Culture	−0.19*	−0.15*	0.11	−0.08	−0.11	0.05
Lifestyle/Travel	0.23***	−0.28***	1.00***	0.14	−0.17	1.12**
Media/Entertainment	0.11*	−0.04	0.75***	0.14	0.07	0.20
Celebrity	0.74***	−0.26***	0.36**	0.65***	−0.23***	0.65***
Interaction effects						
Crime × news style				0.78***	−0.21	0.28
Economy × news style				0.04	−0.12	0.80#
Social affairs × news style				−0.13	−0.41**	0.61
Mobility × news style				−0.35	0.05	−0.05
Environment × news style				−0.39*	−0.10	1.10**
War/ disasters × news style				0.56*	0.06	1.64***
Science/ tech × news style				−0.20	−0.10	0.55
Culture × news style				−0.17	−0.26	0.78
Lifestyle × news style				0.12	−0.31	0.56
Media × news style				−0.02	−0.34*	1.35***
Celebrity × news style				0.13	−0.24	0.29
Control variables						
Paywall	−0.24***	−0.57***	−0.77***	−0.24***	−0.58***	−0.58***
Article length	0.07***	0.08***	−0.003	0.001***	0.0008***	−0.00003
Facebook	1.48***	0.21***		1.47***	0.21***	
Intercept	8.68***	4.29***	6.02***	8.68***	4.29***	6.04***
N (total)	10,506	8980	3163	10,506	8980	3163
AIC	223244.7	95581.19	46564.19	223195.8	95582.47	46541.65

Note: Cell entries are unstandardized regression coefficients. In the case of time spent ($n = 8980$), there were a few missing cases as this metric was not available for the public service broadcaster. For 73 news items we could not identify the amount of pageviews ($n = 10\ 506$). *$p<.05$; **$p<.01$;***$p<.001$

as well as (hard and soft) news items presented in a soft news style (H2). Looking at the topic dimension, we found that almost all topic categories were significantly less likely to generate attention minutes in comparison with news about politics. The average time spent on soft-topic news items, such as lifestyle/travel and celebrity, is 25% lower as compared to news about politics. Moreover, the average time spent for items presented in a hard news style is 13% higher than for items with soft news style features. The findings thus provide evidence for H2: hard news items generate more attention time than soft news items.

Furthermore, as shown in Table 2, almost all controls affect the amount of audience engagement. First, news items behind the paywall are less likely to generate traffic on the website (pageviews, time spent) and on Facebook than items that are freely accessible. Second, we also controlled for the length of the article, or more specifically, the number of words (divided by 100). Although article length should partly be indicative for the time news users spent on the article, including this control did not change the results about hard news style. Finally, story promotion on Facebook can increase the likelihood of generating interactions considerably. News items offered on Facebook logically also generated additional pageviews. Redistribution to Facebook also leads to a higher average attention time, but the effect is less outspoken than for pageviews. The effects of interaction between news topics and news style can be found in Model II (Table 2).

All-in-all, we think we can affirmatively answer our research question that soft news content is able to generate more audience engagement on mainstream media outlets' websites and Facebook pages, at least while looking at traditional exposure metrics such as pageviews and Facebook interactions.

News Softening on Facebook

The analysis next considers whether the degree of news softening differs between the news supply on the website and Facebook. Of the 10,579 articles that were studied in the analysis, 7,465 articles (71%) consisted of hard style news items, while 3,114 (29%) had a soft style of news writing. Of the 10,579 that were posted on the websites of the five outlets, 3,163 articles were subsequently posted on their Facebook pages (30%). With only one third of the total online news supply being redistributed to Facebook, audiences consuming news exclusively through social media are thus at risk of not being informed sufficiently enough. Of these 3,163 articles published on Facebook, the majority were hard news items (71%), while 921 articles contained soft style elements (29%). At first glance, the values for soft news style suggest rather low and comparable degrees of news softening across both platforms. In order to test H4, a comparison was subsequently made between the 10,579 articles offered the website, and the 3,163 articles offered both on the Web and on Facebook. Moreover, the news supply on Facebook hardly differs from the news supply on the website in terms of topics and style. An extensive overview of news topics and style can be found in the Appendix, supplementary material.

A binary logistic regression was run to predict the likelihood of an article being published on Facebook. Table 3 shows the main and interaction effects. We noticed that topics such as crime, environment and energy, social affairs and mobility and infrastructure are positively associated with the dependent variable, thus news outlets find these topics more attractive to post on Facebook than political news items. Crime news was 5% more likely to be posted on Facebook than political news, whereas the percentages for environmental and energy and social affairs news added up to 14% and 16%. Economy and Finance on the other hand were negatively associated with Facebook presence, being 5% less likely to be published on Facebook. Furthermore, we can see that the main hypothesis proves correct: softer news style is significantly

Table 3. Logistic regression of topics and style on Facebook presence.

DV: Facebook presence	Model I: main effect		Model II: interaction effects		Model III	
	B	Odds ratio	*B*	Odds ratio	*B*	Odds ratio
News style	0.27***	1.31	0.28	1.34	0.65#	1.92
Topic (ref = Politics)						
Law enforcement/Crime	0.19*	1.21	0.17	1.19	0.22*	1.24
Economy/Finance	−0.21*	0.81	−0.22*	0.80	−0.21*	0.81
Social Affairs	0.63***	1.88	0.64***	1.91	0.64***	1.90
Mobility/Infrastructure	0.27*	1.31	0.22	1.25	0.27*	1.30
Environment/Energy	0.54***	1.72	0.53***	1.70	0.56***	1.75
War/Disasters/Accidents	−0.06	0.94	−0.14	0.86	−0.12	0.89
Science/Tech/Education	0.22	1.25	0.31*	1.37	0.32*	1.37
Culture/Arts	−0.12	0.89	0.20	1.22	0.18	1.20
Lifestyle/Travel	−0.03	0.97	−0.04	0.96	−0.01	0.98
Media/Entertainment	0.05	1.05	0.05	1.05	0.03	1.03
Celebrity	0.02	1.02	0.24	1.27	0.24	1.27
Media outlets (ref = VRT)						
Het Laatste Nieuws	−1.61***	0.20	−1.62***	0.20	−1.42***	0.24
Het Nieuwsblad	−1.14***	0.32	−1.15***	0.31	−1.24***	0.28
De Morgen	−0.93***	0.39	−0.94***	0.39	−0.67***	0.51
De Standaard	0.15	1.16	0.15	1.16	0.22*	1.25
Paywall	0.03	1.02	0.02	1.02	0.06*	1.06
Topic × news style						
Crime × news style	–	–	0.42	1.51	0.26	1.29
Economy × news style	–	–	0.13	1.13	0.03	1.03
Social affairs × news style	–	–	−0.14	0.87	−0.11	0.89
Mobility × news style			0.35	1.42	0.25	1.28
Environment × news style			0.008	1.009	−0.11	1.75
War/disasters × news style	–	–	1.96***	7.13	1.87**	6.50
Science/tech × news style	–	–	−0.56	0.57	−0.59	0.55
Culture × news style	–	–	−0.53	0.59	−0.60	0.55
Lifestyle × news style	–	–	−0.04	1.00	−0.07	0.93
Media × news style			−0.02	1.05	0.05	1.05
Celebrity × news style			−0.29	0.75	−0.25	1.16
Media outlet × news style						
HLN × news style	–	–	–	–	−0.68***	0.51
Het Nieuwsblad × news style	–	–	–	–	0.15	1.15
De Morgen × news style				–	−1.51***	0.22
De Standaard × news style				–	−0.37	0.69
Constant	−0.15*	0.86	0.14	0.73	−0.24**	0.79
N	10579		10579		10 579	
−2log likelihood	−5928.55		−5909.95		−5863.77	
Pseudo R square	0.0813		0.0842		0.0913	
Chi square (df)	1049.39 (17)***		1086.59 (28)***		1178.94 (32)***	

Note: Cell entries are unstandardized regression coefficients and odds ratios from binary logistic regression. *$p < .05$; **$p < .01$;***$p < .001$

and positively associated with the likelihood of being promoted on Facebook (H4). The difference is however small, soft style news is only seven percent more likely to be posted on Facebook than harder style news. The control variables that were included in the regression analyses also provide some interesting results. We see almost all news outlets were significantly less likely to distribute their articles to Facebook in comparison with the public service broadcaster.

Drawing the comparison between media outlets, the analyses do not yield the expected interaction effects. Model III demonstrates that commercial media do not soften their news supply to a greater extent than the public service broadcaster within Facebook. The effect is even significant and negative for *De Morgen* and *Het Laatste Nieuws*, the two news outlets of DPG Media. Not only do they tend to promote less of

their articles on Facebook, they also use remarkably less softening within Facebook than the public service broadcaster. Lastly, soft news style seems to be more likely to be published on Facebook, but the effect is only borderline significant and therefore not entirely robust, which points to the fact that only for a few outlets there is a difference between the hard and soft variety of news content. This means we can neither corroborate nor falsify the hypothesis saying news media apply news softening to a greater extent on Facebook.

Discussion

Amidst the heavy struggle for audience attention, news production is likely to become more metrics-driven. This situation has given rise to fears that journalistic content on digital news media and especially on social media is becoming softer. The study at hand has showed that news outlets have a slightly stronger tendency to soften their news supply on Facebook as compared to their websites. Whereas the results illustrate that the overall degree of news softening is still rather low across news outlets, we noticed a small shift in the selection of topics published on the Facebook pages of media outlets. Although the Facebook news supply serves informational needs to some extent, we noticed a reduction in the amount of economic, political and foreign news. Besides some discrepancies in topic selection, we were able to observe a clearer shift in news style. Even among the hard news topics, there appears to be a slight preference for soft news style that incorporates more elements of sensationalism and personalization on Facebook. In line with with Lischka (2021) and Steiner (2020), this study finds that Flemish media outlets adjust their news supply to some extent on Facebook in favour of soft news on their respective websites. However, while the surveyed social media editors in Lischka's (2021) study merely hint that audience metrics guide these decisions, this study offers empirical evidence that they do.

Audience metrics offer an explanation for the shift in news topics and style on Facebook in that they seem to suggest that those choices by news editors are the most engagement-rewarding choices, at least, depending on the metric used. When we compare the metric outcomes with the range of published articles on Facebook, the results show some alignment between patterns of popularity and the supply of content on social media. This might point to the fact that editors have a better understanding of what users do as a courtesy of audience metrics and may anticipate this in real-time by pushing certain content more on Facebook at the expense of others. To determine what they should promote on Facebook, journalists primarily seem to base their decisions on pageviews and interactions they get on the platform. The higher share of topics like social affairs, environment and energy for Facebook news can be juxtaposed with the positive relation we found between these topics and the variables pageviews and Facebook interactions. However, when looking at the metric "time spent," we could not identify a similar dynamic of alignment between the news supply and news demand. On the contrary, while time spent signals an interest for hard news topics such as politics and hard news style (see also von Krogh and Andersson 2016), we do not see this reflected in the news supply distributed to Facebook. While it has been suggested that time spent functions as a key performance

indicator in some newsrooms (Hendrickx et al. 2021), the current study has been unable to support these findings. However, as we predominantly looked at the news outlet's promotion strategy on Facebook, caution must be applied, since time spent might be a more important consideration when shaping the news supply on the news outlet's website. This research may thus help us to understand how metrics are rationalized in different ways to tailor the news supply to audience interests. One of the issues that emerges from the findings is that as long as newsrooms, with the business and advertising side of the news organization in particular, tend to focus on mere numbers and quantification of user behaviour, these metrics might contribute to a further softening of the news supply. From the vantage point of commercial logic, doing "what the metrics say" is a good strategy as journalists seem to be rewarded for these choices in terms of pageviews and interactions.

One unanticipated finding was that the public service broadcaster applies softening to a somewhat stronger degree than the commercial media in our sample. Part of the reason for the rather surprising result may lie in the fact that the PSB wants to use Facebook in ways to target and address a mostly younger audience, which may serve as a rationale for the softened news posts. Hence, the PSB may seem commercialized, while their posting behaviour in fact involves more of an anticipation on social media/algorithmic logic in order to effectively attract a unique public to public service news. However, further research involving interviews or ethnographic research should be carried out to triangulate the findings and arrive at a more complete picture of the specifics of each news outlet's social media strategy.

The findings of this study should be examined within the context of a few limitations. First, we chose to study Facebook interactions on an aggregated level. Distinguishing between the three different types of Facebook-related interactions by comparing the frequency of likes, shares and comments on hard and soft news articles would help us to establish a greater degree of accuracy on this matter. Second, we largely ignored that audience behaviour and subsequent engagement with content is affected by the platform and algorithmic changes (Myllylahti 2020). Our findings indicate that Facebook is a significant driver of traffic to the news outlet's website. This finding deserves further critical elaboration, knowing that Facebook to a large extent controls its user's news feeds and the amount of visibility and prominence that news organizations' content is attributed on the platform through the algorithms (Myllylahti 2020; Zamith 2019). The Facebook MSI algorithm will for example display hard news for those with such peers in their neworks, and soft news if those peers have a preference for that type of content. Investigating to what extent content and subsequent metrics are affected and manipulated by the Facebook algorithm lies outside the scope of this current paper but would be valuable to analyse in its own right. Third, as the contribution of this study lies primarily in the comparison between the website and Facebook, we can only reflect on news softening at one point in time. A longitudinal content-analytical design would enable us to test whether news softening has actually increased over time or might point to a ceiling effect, implying that news softening is a process that already takes place on the news outlet's website and therefore can hardly be further increased on Facebook (see also Steiner 2020). Fourth, we must guard against comparison with media markets outside the West European context.

More fragile media markets may have a much stronger dependency on Facebook for their distribution strategy. Lastly, whilst this study was able to analyse audience engagement using unique metrics provided by the news organizations themselves, the disadvantage is that we also equate popularity with news appreciation or interest. This resonates with the concern voiced by other researchers that all these metrics, even time spent, are not necessarily good parameters, but are rather designed by the news industry to quantify and sell user attention to advertisers (Groot Kormelink and Costera Meijer 2020; Napoli 2011). Further research should be undertaken to investigate and include other metrics, as this study shows that "time spent" and "page views" exhibit different patterns. In the context of Facebook, it might be worth looking into metrics that measure "retention" or referral traffic to the news sites as this might be better predictors for the softening of the news supply.

Conclusion

All together, these results offer an important contribution to the study of how news organizations approach audience metrics and platforms such as Facebook, and the consequences for the news output. The extent to which media have become more considerate of the audience has for years been accompanied by general concerns about journalism conforming to audience demand and corresponding tabloidization tendencies. This study has shown that the news supply has undergone incremental changes when media invoke audience measurement to inform their news selection. Notably, it found that Belgian news outlets mostly continue to seek audience attention in terms of likes and pageviews on Facebook and that these metrics encourage news outlets to distribute a slightly softer news supply on Facebook than compared to the news outlet's website. At the same time, we hope that this study illustrates that results are mixed and nuanced. Therefore, it remains relevant to investigate the complex relationship between the measurement of audience data and the selection and presentation choices that are deduced from them. Particularly, the concept of softening has proved relevant as it allowed us to discuss changes in the news output in terms of news topics and style without making inferences about journalistic quality and its normative underpinnings that were inherent to the tabloidization debate. From a democratic point of view, one could express concerns about social media audiences not accessing enough civically valuable news on Facebook to be informed citizens. However, this study does not wish to engage with the question whether softening is inherently good or bad for journalism. What we do conclude from this research is that the implementation of new technology evokes different judgments and choices. We therefore encourage scholars to continue studying the interplay between audience engagement and the news output.

Notes

1. CIM (Centre of Information on Media, https://www.cim.be/). The reason why we did not include *Gazet Van Antwerpen* (4th place) is because this newsroom works in synergy with the editorial staff of *Het Nieuwsblad* from whom they take most of their national and international reporting.

2. The software systems used to capture the metrics studied in the analysis are Adobe Analytics, Google Analytics and in-house dashboards that among others use Google Analytics as their input channel.

Acknowledgements

I would like to acknowledge the constructive and valuable feedback received from two anonymous reviewers and the Digital Journalism Editorial Team. I'm also grateful for the helpful comments of Steve Paulussen, Peter Van Aelst and the m^2p research group meeting on a previous version of this article. At last, the author would like to thank the coders for their hard and meticulous work.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the BOF GOA fund of the University of Antwerp.

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