BBC News:
A social media intelligence study

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INTRODUCTION

Social media is a significant medium for communication across the globe. It is becoming increasingly important for organisations to pay attention to what is shared and discussed on social media given its extensive reach (half of adults use social media for news). Social media analysis is therefore an important part of the research toolkit that enables the evaluation of people's views and perceptions.

The report explores
- the volume of sharing of bbc.co.uk news links
- the volume of explicit mentions of BBC news
- an analysis of the social discourse that surrounds the sharing of these links and keywords through quantitative analysis of public social media

All posts and comments were accessed via Talkwalker[1], spanning a period of a year from 19th June 2018 to 18th June 2019.

The data collected was made publicly available by individuals on the open public web. The data collected did not include private data, as defined by the individual privacy settings on the social media platforms or direct messages (DMs)/private messages between social media users. 93.6% of the posts sharing BBC news links and 85.2% of explicit mentions of BBC news come from Twitter. Stage 3 and 4 qualitative analysis was based on this Twitter commentary.

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[1] The social media listening software used for this study.

In Stage 1 quantitative social media performance analysis was carried out, from the open public web, to measure and compare the volume of BBC news links shared with a range of other global and UK news providers (LBC, Channel 4, The Guardian, The Times, Sky News, CNN, Daily Mail, Buzzfeed, and LADbible). The analysis in Stage 2 also looked at the content types of BBC news links, in order to understand the news stories that resonate with people when they read and share news links. The driving themes of the most engaging BBC news articles were identified.

Stages 3 and 4 of the report include an extensive qualitative analysis of the groups on Twitter who share BBC online news articles, and those who discuss BBC news to understand the public's perception.

KEY FINDINGS

Definitions

In this reports statistics on Volume, Engagement and Reach are provided by the Talkwalker platform, defined as:

- **Volume:** the number of results, social media mentions/posts, identified by the software Talkwalker matching the provided keywords. Please consult the Appendix for the keyword lists.
- **Reach:** the number of all social media users who were potentially reached by all posts.
- **Engagement:** the sum of actions (likes, shares, comments) made by social media users on all posts.

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The majority of people who share BBC news articles on social media accept the BBC as a legitimate news source, actively seeking it out, sharing articles and adding personal commentary on their public social media.

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- BBC news has a significant social media presence as measured by the number of social media followers. Across the other news providers looked at in this study, it has the highest number of followers on Facebook and Instagram, and is second only to CNN on Twitter.

- Engagement on social media, as measured by likes, shares and comments, with BBC news provider looked at in this study, driving almost double the number of likes, shares and comments than its nearest competitor in engaging with people, The Guardian. However, its audience has on average fewer social media connections (followers or friends) than people sharing The Guardian, Channel 4, CNN and the Daily Mail, giving it less potential for amplification and visibility across a wider network of social media feeds

BBC news is perceived as a credible source of news with the majority of articles of interest being shared without additional commentary but used to support individuals interests and views.

- The BBC's 'UK news' category (with a focus on UK politics) is of primary interest to people, with the highest volume of articles in this category being shared. World News and Science attract the highest levels of engagement with higher volumes of likes and comments.

- The majority (80%) of people who share BBC news links do not add any personal content alongside the URL and the title of the article, but simply amplify the reach within their social circles. This suggests implicit trust is placed in the articles shared with individuals sharing items that support their views or represents an issue of interest to them,

- Of the 20% of people who share their opinions alongside news links, comments are almost exclusively positive about BBC news, with news being shared as a credible source to support an individual's opinion or speak out in their community

- Only a very small minority who shared and discussed BBC news did so in an explicitly negative way.)

The 20%, who comments whilst link sharing, use BBC news for a range of different reasons ranging from supporting their own views through venting about current affairs to criticising the BBC itself.

- The shared belief by the vast majority was that BBC news is trustworthy and pertinent in offering credible support to their own news interests and agendas.
- Criticism of BBC news content was limited, evident in an extremely low percentage of commentary when attached to shared news links (less than 5%).

A small minority of people who are more critical of BBC news on Twitter expect a public service that aligns with their own beliefs

- **I**n contrast to people who share news links, people who comment on "BBC news" in the Twitter space without reference to a news article tend to be overwhelmingly critical about the BBC.
- Social media critics of BBC news express views from both ends of the political spectrum.
- People at both ends of the political spectrum only comment on the BBC news itself when its content is in conflict with their own beliefs and values. Positive comments are extremely rare.
- Unscripted news programmes, such as The Andrew Marr Show or Question Time, are considered extremely divisive by this group of commentators and are discussed in a negative way. They are not seen as representative or credible by either side of the political debate.

Whilst political topics are contentious and divide opinion, the BBC is greatly valued for human interest, international news, investigative journalism and quality documentaries.

METHODOLOGY

Talkwalker, a social listening tool, was used to source the social media data for this study[2]. It is a commercial monitoring tool used to harvest and measure social media conversations spanning a period of year from 19th June 2018 to 18th June 2019.

Two different search methods were used to capture data for the study: Keywords and URL/links:

KEYWORD QUERY

A keyword (semantic) query was used to capture conversations about each news provider included in the competitor set. For example, the keyword "BBC news" was searched to find conversations about the BBC's news delivery.

This approach is suitable for discovering conversations where people explicitly discuss a news provider.

Competitor set

- BBC News
- The Guardian
- The Daily Mail
- CNN
- LBC
- Channel 4
- Buzzfeed
- LADbible
- The Times
- Sky News

URL / LINK QUERY

By the URL/ link query those public social media posts and comments were collected that included a shared post from the news provider. For example, results for the BBC would feature a shared link to a BBC news article, and potentially some commentary on the news and/or on the news provider.

The URL/ link query is useful for understanding the news preferences of social media users.

Please see Appendix for the full list of queries.

The data collected was made publicly available by individuals on the open public web. The data collected did not include private data, as defined by the individual privacy settings on the social media platforms or direct messages (DMs)/private messages between social media users. Metrics and analytics include keyword mentions and link sharing across all public social media in Talkwalker. Qualitative analysis in Phases 3 and 4 were solely based on publicly available Twitter data.

[2] All posts included in the analysis within this report were accessed via Talkwalker are public and in accordance with the respective platform's privacy policies, GDPR and ESOMAR compliant.

Following the data capture, Bakamo conducted an in-house qualitative analysis to understand in more detail how people who explicitly discuss the BBC perceive it as a news provider.

Research Steps

Stage 1: Quantitative analysis of the volume of news links and keywords shared and news provider mentions

Global and UK-only data on the volume, reach and engagement (see Definitions on the next page) were accessed via Talkwalker, while figures on social media followership were collected manually. Using the Talkwalker platform, data was divided according to the users' geolocation, media platforms and gender. Analysis of conversation spikes helped to identify the top trending articles for each news provider.

Stage 2: Analysis of the types of BBC news categories shared

Top 25 most engaging (indicator of the sum of all likes, shares and comments) articles per news category were collected from Talkwalker as a basis for the qualitative thematic analysis.

Stage 3: User profiles of people who share BBC news links

450 comments were qualitatively coded to show the relative sizes of opinion groups.

4: BBC News Perceptions

Qualitative analysis to understand how people, who explicitly discuss the BBC, perceive it as a news provider. 750 comments were coded to quantify the expressed sentiments towards BBC news.

MAIN FINDINGS

Stage 1 – Quantitative analysis of the volume of news links shared and news provider mentions

BBC News has a significant global online presence as measured by the number of social media followers.

Social Media Followers

BBC News online has a huge social media followership. With 49 million Facebook followers and 8.7 million followers on Instagram, other than CNN's leading position on Twitter (42.2 million followers) BBC News outranks all other online news providers across these three social media platforms.

As of June 2019

	Facebook Followers	Twitter Followers	Instagram Followers
BBC	49 million	10 million	8.7 million
LBC	0.5 million	0.3 million	0.02 million
Channel 4	2.9 million	0.9 million	0.2 million
The Guardian	8.2 million	7.8 million	1.9 million
The Times	0.8 million	1.2 million	0.25 million
Sky News	8.3 million	5 million	0.6 million
CNN	31.2 million	42.2 million	7.8 million
Daily Mail	16 million	2.4 million	0.9 million
Buzzfeed	11 million	6.55 million	4.8 million
LADbible	36 million	2.1 million	8 million

Globally, people are choosing to see BBC News content regularly on their social media feeds, with nearly ten times as many followers as other British brands such as Marks and Spencer (5.3 million on Facebook) and significantly closer than any of its competitor news providers to the leading content brand Netflix (60 million on Facebook).

Engagement on social media with BBC news online far exceeds any other news provider, driving almost double the volume of likes, shares and comments than its nearest UK based competitor in engaging with people, The Guardian.

The majority of people who share BBC news articles on social media accept the BBC as a legitimate news source, actively seeking it out, sharing articles and adding personal commentary on their public social media.

Volume, Reach & Engagement
How much people share, how much people see, how much people react.

Volume: The Guardian has the highest volume of news articles shared (21.4 million) and it is estimated that each post can reach the social media feeds of 9.8 million people. Comparatively BBC news online has 11.8 million articles shared with an estimated reach of 4.7 million per post. Guardian sharers have more connections on social media, so every article shared has the potential to be seen on a greater number of people's social media feeds.

	Volume	Estimated reach per post	Engagement per post
BBC	11.8 million	4.7 million	44.9
The Guardian	21.4 million	9.8 million	12.6
CNN	15.36 million	5.3 million	30.6
Buzzfeed	10.3 million	1.3 million	14.6
Daily Mail	9.75 million	13.3 million	33.9
Sky News	2.35 million	2.7 million	23
The Times	1.71 million	4.3 million	12.5
LADbible	0.5 million	2.1 million	193.9
LBC	0.4 million	0.2 million	25
Channel 4	0.2 million	9.6 million	14.7

Reach: Whilst BBC news is ranked third for the volume of articles shared online it is ranked fifth for estimated reach per post. People sharing BBC News articles have on average less social media connections (followers or friends) than people sharing The Guardian, Channel 4, CNN and the Daily Mail, giving it less potential for amplification and visibility across a wider network of social media feeds. Content from the Daily Mail reaches the most people, as articles are shared by numerous secondary global newspapers, boosting its reach per post to top ranked position at 13.3 million, nearly three times the reach of a BBC news post.

Engagement: Those sharing BBC news are highly engaged with the subject matter. BBC news online generates likes, comments and shares culminating in the highest overall engagement (530 million), nearly double the Guardian in second place (270 million). The BBC news online's top engagement status is rivalled only by less traditional, low volume news provider, LADbible. Although its comparatively low volume of articles being shared keeps it out of the top ranks for total engagement, LADbible's engagement per post far exceeds BBC news, the Daily Mail and all other news providers analysed (LADbible engagement 193.9 million per post).

Stage 2 – Analysis of the types of BBC news categories shared

The top 25 most engaging (indicator of the sum of all likes, shares and comments) articles per news category were collected from Talkwalker as a basis for the qualitative thematic analysis.

The BBC's domestic 'UK news' (with a focus on UK politics) is of most interest to people, with the highest volume of articles in this news category shared – with the majority of articles of interest being shared without additional commentary but used to support individuals interests and views.

'World News' and 'Science' attract the highest levels of engagement with higher volumes of likes and comments attributed to these articles.

News Category Volumes

The news links shared were categorised according to the BBC news website categories for volume and engagement analysis. This includes UK, World, Video and Audio, Business, Entertainment and Arts, Science, Technology, Health, Education, Newsbeat, Stories, Resources and Extra. The table below shows the news categories ranked by the volume of links shared.

Engagement per post meaning the average number of engagement (likes, shares and comments) received by a post

	Volume	Engagement per post
UK	1.84 million	49.2
World	0.6 million	133.7
Video and Audio	0.4 million	37.3
Business	0.4 million	68.4
Entertainment & Arts	0.2 million	54.5
Science	0.2 million	1750
Technology	0.1 million	15.6
Health	0.1 million	83.6
Education	0.07 million	17
Newsbeat	0.05 million	55.1
Stories	0.03 million	2.8
Resources	0.02 million	14.6
Extra	0.006 million	1.7

News Category Engagement: Articles from the "UK news" category were shared the most (1.84 million) – more than three times the volume of World news articles shared, which ranked second by volume. However, engagement with the 'World news' category is higher and links are shared with more than twice the amount of personal comments, likes or interactions compared to UK domestic news links.

The Science News category, with 280M interactions – likes, comments and shares – far outranks all other news categories for engagement with engagement per post of 1,750 vs 49 for UK domestic news. This was largely due to one very popular article about the first image of a black hole. Had there not been the black hole article, the World news category would lead engagement per post.

Most engaging articles in the Entertainment and Arts news category cover breaking news about the deaths of famous people of the entertainment sector.

Thematic Analysis: of the most shared articles from each of the BBC news categories identified nine *themes* that people are most interested in.

- **Brexit:** the UK's departure from the European Union
- **UK-US:** relationship between the UK and the US.
- **Human Interest:** out of the ordinary stories about ordinary people, celebrities and cultural news.
- **International stories: worldwide affairs and events.**
- **Research/science:** technological advancements and new discoveries in science or key findings of recently published studies.
- **Non-Brexit UK politics:** the complete range of UK political news that is not Brexit-related.
- **Environment:** environmental issues, climate change, sustainability and animals.
- **Social issues:** equality or societal progress.
- **Company related news:** UK and multinational companies.

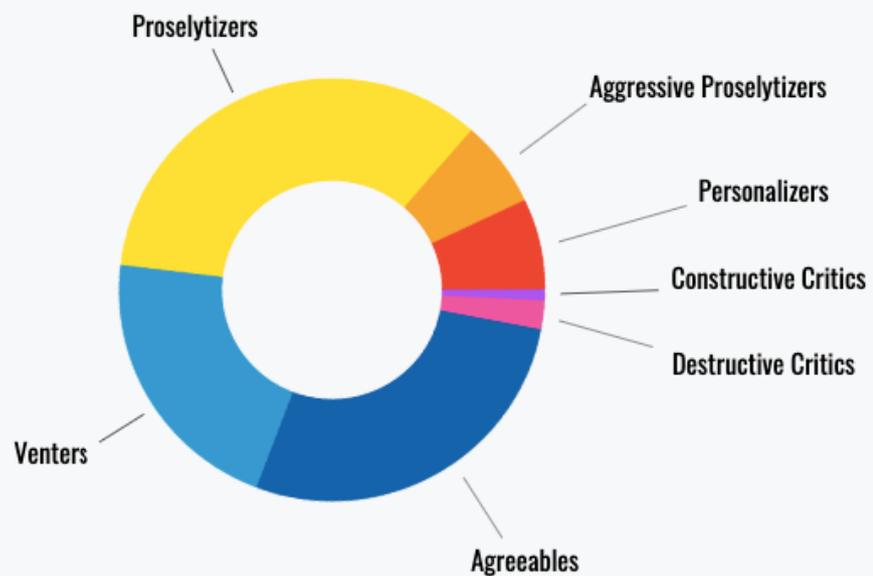# Stage 3: User profiles of people who share BBC news links

Qualitative analysis of public Twitter to understand how and why people share BBC news articles. The opinion groups, based on news consumption preferences, also gave an indication of their relationship with the BBC and their levels of engagement.

The majority (80%) of people who share BBC news links do not add any personal content alongside the URL and the title of the article. They simply forward on thus amplifying the reach of BBC news within their social circles.

This behaviour suggests implicit trust is placed in the articles shared with individuals sharing items that support their views or represents an issue of interest to them.

Of the 20% of people who share their opinions alongside news links, comments are almost exclusively positive about BBC news, with news being shared as a credible source to support an individual's opinion or speak out in their community (with only a very small minority of all shared links users discussing the BBC in an explicitly negative way.)

Seven user groups were constructed from the 20% of people who shared and commented on BBC news links.

BBC news link commentator qualitative segmentation

News links are shared by commentators to satisfy differing personal needs and motivations but with a shared belief by the overwhelming majority of BBC news being trustworthy and pertinent in offering credible support to the individual's own agenda.

Agreeables (Just under one third of the segmented commentators) Share non-controversial BBC news articles. "Cute", enchanting, uplifting and shocking stories or simple fun facts are among the articles they share. They usually only add a short, impersonal comment, e.g.: "Great article!", "Fantastic read!", "Everyone should see this!", that does not reveal much about their views or backgrounds. They share articles to be seen as part of a community. For them, BBC news is a reliable news source with outstanding content.

Venters (the third largest segment) sound frustrated. Frequently they vent their anger and use sarcasm to express concern about topical issues including diversity, multiculturalism, and climate change. They share their take on issues to provoke response and debate, whilst seemingly showing that they have lost hope. For them, BBC news is a trustworthy news source which provides news articles that they use to highlight their concerns.

Proselytizers (the largest group making up just over a third of the segmentation) use the BBC's perceived credibility to further their own agendas and back up their claims regarding certain issues. They purposefully create posts to frame the information in the BBC news article and highlight their personal agenda. These users provide their interpretation of news articles and they are open for a serious debate on social media. They show passion towards an issue whilst remaining sophisticated in their expression. They accept BBC news as a reliable news source which provides news articles that they use to support their view.

Aggressive Proselytizers are closely connected to Proselytizers, but are more emotionally charged. They are open about their mission, but express their frustration with the subject matter which seems out of their reach (for example, stopping climate change). The tone of their comments can be aggressive and they tend to make frequent use of profanity. Their expression reveals sense of urgency. For them, BBC news is a reliable news source which provides news articles that they use to support their view.

Personalisers place themselves in news stories. They contextualize events happening around them and express their personal connectedness with the story. Some use news articles as an opportunity to share information about themselves. Their comments often involve pronouns, such as "I", "me", "my", etc. They often back up the validity and importance of a story with a personal experience story. They also aim to signal the significance of a given article to their followers and friends,. They accept the BBC as a reliable news source.

Criticism of BBC news content was limited, evident in an extremely low numbers of commentary when attached to shared news links.

Constructive Critics share BBC news content, but also highlight minor mistakes or inaccuracies with a positive intention. They think BBC news generally has high quality journalistic standards, but makes mistakes, which is unacceptable for them and they feel needs to be highlighted. They are very detail-oriented and value the BBC as a news source.

Destructive Critics share BBC news content, but fiercely voice their displeasure. The BBC is not a reliable news source for them. Most of them outright reject the validity of articles by labelling them fake news. They appear to have lost faith in the integrity of BBC news and do not always feel their views are represented. They do not accept the BBC as a reliable or trusted news source.

Stage 4, BBC PERCEPTIONS

Qualitative analysis to understand how people, who explicitly discuss the BBC on Twitter, perceive it as a news provider.

In contrast to people who share news links, people who comment on "BBC news" without reference to a news article tend to be overwhelmingly critical about the BBC.

Within the UK based data sourced, more than 2.5 million posts explicitly mentioned "BBC news" as a keyword without also sharing a BBC news link. 750 comments were coded to quantify the expressed sentiment towards the BBC. Among these posts around eight-in-ten were negative and less than one-in-twenty positive.

Social media critics of BBC news come from all sides of the political spectrum.

Many do not feel politically represented by the public news service. Generally, people understand the BBC's mission as that of public service. For many, the interpretation of public service comes down to whether or not they feel served, whether or not they trust the institution, and whether or not it reflects their perceived British identity. Their criticisms are rooted in the perceived contrast between their own opinions and those represented by the BBC news. This is interpreted as a failure to fulfill the public service.

People at both ends of the political spectrum only comment on the BBC news itself when its content is in conflict with their own beliefs and values. Positive comments are extremely rare.

Qualitative analysis of the comments gave an indication of some commentators political leanings, **Commentators expressing more progressive ideas** and **Commentators expressing more conservative ideas** is close to equal, with neither dominating the discourse, and these equal proportions ensure a similar tension between each side and BBC news.

Commentators expressing more progressive ideas articulated views that they want BBC news to help accomplish change in British society and to be a beacon of progressive thinking. They appeared dissatisfied with the way BBC news covered the 2016 Brexit referendum. Some mentioned views that standards of journalism are declining, and that BBC news rarely treats social and environmental issues fairly, for instance, by inviting anti-vaccination advocates or climate change deniers to voice their views, rather than focussing on what they see as the more credible science.

Commentators expressing more conservative ideas expressed dissatisfaction about the lack of airtime given to aligned views on BBC news social and political programmes. They complain of a lack of pro-Brexit voices and coverage. For example, they suggested BBC news should preserve and boost Britishness by covering Brexit-related issues more extensively and by giving conservative voices more airtime.

Whilst political topics are contentious and divide opinion, the BBC is greatly valued for human interest, international news, investigative journalism and quality documentaries.

News that covers personal stories, both from the UK and internationally, for example Panorama or documentaries such as Grenfell Tower, bring diverse audiences together in their commentary on social media.

Unscripted news programmes are considered extremely divisive among this group of commentators and are discussed in a negative way. They are not seen as representative of the public or credible by either side of the political debate.

Unscripted programmes include The Andrew Marr Show and Question Time. Both political sides feel that unscripted programmes are biased. Frequent claims include the notion that politicians are not getting equal airtime, or that they are treated unfairly by the presenter. Some expressed that the BBC enables the communication of propaganda messages. The Question Time's studio audience is claimed not to be credible or representative of the broader population. Andrew Marr constantly challenges his guests, playing devil's advocate at times, which draws criticism from both ends of the political spectrum.

People expect a public service that represents their own views. They are critical of content that doesn't align with their own beliefs and values.

In conclusion, people increasingly occupy echo chambers – both online and in their social groups – in which they seek news that conforms to their existing opinions and reflects their views and perceptions. They are increasingly unfamiliar with having their ideas challenged as they avoid spaces and programmes where that might happen. BBC news performs an important public service through its wide reach and its broadly accepted reputation as a trustworthy and quality news and content provider to people with a range of views, even when these views are critical of the BBC.

APPENDIX

<u>A, The top 5 stories within each of the BBC's news categories over the period of the study are detailed below:</u>

- **"UK News" category:** 'Brexit' is the most dominant theme in this category.
    - Top 1: https://www.bbc.com/news/uk-politics-46885828 (15 January 2019)
        - Theresa May's deal is voted down by 230 votes.
    - Top 2: https://www.bbc.com/news/uk-england-london-44732754 (5 July 2018)
        - Plans to fly a giant inflatable baby figure depicting Donald Trump during the US president's visit have been approved.
    - Top 3: https://www.bbc.com/news/uk-england-cumbria-47651510 (21 March 2019)
        - A moonbow, a rare lunar rainbow, has been seen and photographed over Cumbria.
    - Top 4: https://www.bbc.com/news/uk-england-bristol-45770028 (6 October 2018)
        - Banksy has released a video showing how he secretly built a shredder into one of his paintings that self-destructed after it was sold for more than £1m.
    - Top 5: https://www.bbc.com/news/uk-45861683 (15 October 2018)
        - The Duchess of Sussex is pregnant and is due to give birth next spring.

- **"World News" category:** this category's readers show a broad interest in news involving 'Social Issues'.
    - Top 1: https://www.bbc.com/news/world-europe-47941794 (16 April 2019)
        - A major fire has engulfed the medieval cathedral of Notre-Dame in Paris.
    - Top 2: https://www.bbc.com/news/world-africa-45976620 (25 October 2018)
        - Sahle-Work Zewde becomes Ethiopia's first female president.-Top 3: https://www.bbc.com/news/world-asia-44688909 (2 July 2018)
        - Twelve boys and their football coach missing in caves in Thailand for nine days have been found by divers.
    - Top 4: https://www.bbc.com/news/world-asia-47648549 (21 March 2019)

- New Zealand will ban all types of semi-automatic weapons and assault rifles following the Christchurch attacks.
- Top 5: https://www.bbc.com/news/world-africa-47843999 (7 April 2019)
- Poacher killed by elephant then eaten by lions in South Africa.

- **"Video and Audio News" category:** videos related to a 'Human Interest' theme provided the most popular content within the category featuring celebrities. Many videos focusing on 'Social Issues' also went viral.
-Top 1: https://www.bbc.co.uk/news/av/entertainment-arts-46025716/ballet-black-help-create-shoes-for-non-white-dancers (03 November 2018)
- Company Ballet Black creates shoes for non-white dancers.
-Top 2: https://www.bbc.com/news/av/uk-45650976/meghan-closes-a-car-door (26 September 2018)
- Meghan closes a car door.
-Top 3: https://www.bbc.com/news/av/world-us-canada-45997233/the-young-black-americans-backing-trump (26 October 2018)
- Young black conservatives wore Make America Great Again caps and chanted the president's name at the White House.
-Top 4: https://www.bbc.com/news/av/uk-46086225/tower-of-london-illuminated-for-armistice-tribute (05 November 2018)
- Around 10,000 flames have been lit at the Tower of London to mark the centenary of the end of World War I.
-Top 5: https://www.bbc.com/news/world-middle-east-45964795 (24 October 2018)
- Half the population of war-torn Yemen - 14 million people - are facing 'pre-famine' conditions.

- **"Business News" category:** this category is the most diverse from a thematic perspective. "Company Related News" is the most prominent theme, but 'Brexit' also appears frequently.
-Top 1: https://www.bbc.com/news/business-47691478 (25 March 2019)
- A British Airways flight destined for Düsseldorf in Germany has landed in Edinburgh by mistake, since the flight paperwork was submitted incorrectly.

-Top 2: https://www.bbc.com/news/business-45516677 (14 September 2018)

    - Volkswagen is ending production of Beetle in 2019.

-Top 3: https://www.bbc.com/news/business-47658803 (24 March 2019)

    - Kenyan science teacher Peter Tabichi wins global prize.

-Top 4: https://www.bbc.com/news/business-47036119 (29 January 2019)

    - US lobby groups for agriculture and pharmaceutical firms want UK standards changed to be closer to those of the US in a post-Brexit trade deal.

-Top 5: https://www.bbc.com/news/business-47282603 (18 February 2019)

    - Honda is set to announce the closure of its Swindon car plant in 2022, with the loss of about 3,500 jobs.

- "Entertainment & Arts News" category: the only theme in this news category is 'Human Interest'.

    -Top 1: https://www.bbc.com/news/entertainment-arts-47442312 (5 March 2019)

    - The Prodigy's Keith Flint dies aged 49.

    -Top 2: https://www.bbc.com/news/entertainment-arts-47095343 (1 February 2019)

    - Actor Clive Swift, known to millions as Hyacinth Bucket's hen-pecked husband Richard in BBC One's 90s sitcom Keeping Up Appearances, has died aged 82.

    -Top 3: https://www.bbc.com/news/entertainment-arts-45169609 (16 August 2018)

    - Aretha Franklin, the "queen of soul" known for hits like Respect and Think, has died in Detroit at the age of 76.

    -Top 4: https://www.bbc.com/news/entertainment-arts-47448666 (4 March 2019)

    - US actor Luke Perry has died in California at the age of 52, less than a week after suffering a massive stroke.

    -Top 5: https://www.bbc.com/news/entertainment-arts-46712694 (30 December 2018)

    - Dame June Whitfield, the London-born actress was a regular fixture on TV and radio for six decades, has died aged 93.

- "Science News" category: the 'Research/Science' theme in this category dominates, featuring space-related discoveries.

    -Top 1: https://www.bbc.com/news/science-environment-47873592 (10 April 2019)

- Astronomers have taken the first ever image of a black hole, which is located in a distant galaxy.

-Top 2: https://www.bbc.com/news/science-environment-47891902 (11 April 2019)

- Katie Bouman, A 29-year-old computer scientist, develop the algorithm that created the first-ever image of a black hole.

-Top 3: https://www.bbc.com/news/science-environment-45775309 (8 October 2018)

- The final call in the most extensive warning yet on the risks of rising global temperatures.

-Top 4: https://www.bbc.com/news/science-environment-46811618 (9 January 2019)

- Mysterious radio signals from deep space detected.

-Top 5: https://www.bbc.com/news/science-environment-47543875 (13 March 2019)

- Death metal music inspires joy not violence. That is the conclusion of Macquarie University's music lab, which used the track in a psychological test.

- **"Technology News" category:** it is a diverse category, slightly dominated by the theme 'Company Related News'.

-Top 1: https://www.bbc.com/news/technology-47393510 (28 February 2019)

- Some schools have warned parents about the "Momo challenge".

-Top 2: https://www.bbc.com/news/technology-45686890 (29 September 2018)

- Facebook says almost 50 millions of its users were left exposed by a security flaw.

-Top 3: https://www.bbc.com/news/technology-46538125 (2 January 2019)

- The firm whose staff are all autistic.

-Top 4: https://www.bbc.com/news/technology-47562281 (14 March 2019)

- Facebook and Instagram suffer most severe outage ever.

-Top 5: https://www.bbc.com/news/technology-47144091 (6 February 2019)

- The introduction of dozens of new accessibility-themed emojis has been welcomed by disability rights campaigners.

- "Health News" category: 'Research/Science' is the prominent theme in this category.

-Top 1: https://www.bbc.com/news/health-47691567 (26 March 2019)

    - A birth control pill for men has passed initial human safety tests.

-Top 2: https://www.bbc.com/news/health-47421855 (5 March 2019)

    - A UK patient's HIV has become "undetectable" following a stem cell transplant.

-Top 3: https://www.bbc.com/news/health-45283401 (24 August 2018)

    - Research finds even just one drink a day leads to health risks.

-Top 4: https://www.bbc.com/news/health-45990874 (1 November 2018)

    - People who believe the myths spread by anti-vaccine campaigners are absolutely wrong.

-Top 5: https://www.bbc.com/news/health-47359682 (26 February 2019)

    - Plans to change the rules on organ donation consent in England have cleared the final hurdle in Parliament.

- "Education News" category: the category's leading theme is 'Non-Brexit politics'.

-Top 1: https://www.bbc.com/news/education-47655600 (21 March 2019)

    - Every school needs a dog as a stress-buster.

-Top 2: https://www.bbc.com/news/education-47695169 (26 March 2019)

    - Breast ironing awareness should be made part of the mandatory school curriculum to protect young girls from abuse.

-Top 3: https://www.bbc.com/news/education-46900154 (17 January 2019)

    - London state school secures 41 Oxbridge offers.

-Top 4: https://www.bbc.com/news/education-46019429 (30 October 2018)

    - Surgery students 'losing dexterity to stitch patients' since students have spent so much time in front of screens and so little time using their hands.

-Top 5: https://www.bbc.com/news/education-46416421 (2 December 2018)

    - Parents 'must not abdicate duties' to teachers, says Ofsted.

- "Newsbeat" category: 'Human Interest' is the most frequently appearing theme.

    -Top 1: https://www.bbc.com/news/newsbeat-47224887 (14 February 2019)

      - Rare animal, black panther, caught on camera in Kenya.

    -Top 2: https://www.bbc.com/news/newsbeat-47330830 (28 February 2019)

      - Australia plans to dump one million tonnes of sludge in the Great Barrier Reef.

    -Top 3: https://www.bbc.com/news/newsbeat-47612616 (18 March 2019)

      - Sam Smith comes out as non-binary: 'I'm not male or female'.

    -Top 4: https://www.bbc.com/news/newsbeat-46397317 (30 November 2018)

      - Cameron Underwood: Face transplant means I can smile again.

    -Top 5: https://www.bbc.com/news/newsbeat-46874617 (15 January 2019)

      - A Gillette advert which references bullying, the #MeToo movement and toxic masculinity has split opinion online.

- "Stories" category: these articles fall into two themes, 'International Stories' and 'Human Interest'.

    - Top 1: https://www.bbc.com/news/stories-45971416 (25 October 2018)

      - 'The food supplement that ruined my liver'

    -Top 2: https://www.bbc.com/news/stories-46882917 (21 January 2019)

      - Greek pilot Vasileios Vasileiou survived thanks to the bed in a luxury hotel when Taliban gunmen stormed it.

    -Top 3: https://www.bbc.com/news/stories-47726967 (31 March 2019)

      - Nokubonga Qampi became known as the "Lion Mama" in South Africa after she killed one of three men raping her daughter, and wounded the others.

    -Top 4: https://www.bbc.com/news/stories-46193709 (20 November 2018)

      - Margot Noel explains her condition called misophonia, which literally means "hatred of sound".

    -Top 5: https://www.bbc.com/news/stories-46558932 (14 December 2018)

      - Ruba and Saqib both carry a gene for an incurable condition that induces death of children. Ruba wants IVF to select a healthy embryo.

- "Resources" category: 'Human Interest' is the dominant theme in this category.

    -Top 1: https://www.bbc.co.uk/news/resources/idt-sh/Venezuela_bridge (22 August 2018)

        - The humanitarian crisis in Venezuela has led Venezuelans to migrate by coming over the Simón Bolívar International Bridge.

    -Top 2: https://www.bbc.co.uk/news/resources/idt-sh/China_hidden_camps (24 October 2018)

        - China is accused of locking up hundreds of thousands of Muslims without trial in its western region of Xinjiang.

    -Top 3: https://www.bbc.co.uk/news/resources/idt-sh/Mother_without_a_baby (5 October 2018)

        - BBC journalist Fiona Crack became pregnant with a longed-for baby girl last year, but her waters broke early and her daughter died.

    -Top 4: https://www.bbc.co.uk/news/resources/idt-sh/the_godfather_of_fake_news (27 November 2018)

        - Christopher Blair is one of the world's most prolific writers of fake news.

    -Top 5: https://www.bbc.co.uk/news/resources/idt-sh/the_beach_nobody_can_touch (20 February 2019)

        - Maya Bay is the beach nobody can touch.

- "Extra" category: due to lack of articles in this category, the resulting four articles included only one theme, 'Human Interest'.

    -Top 1: https://www.bbc.co.uk/news/extra/bM5diyI48K/alcock (14 June 2019)

        - the story of a plane accident on the 15th of June, 1919.

    - Top 2: https://www.bbc.co.uk/news/extra/D1qVRFeHpC/the_danger_in_our_homes (13 June 2019)

        - Danger behind tumble dryers

    -Top 3: https://www.bbc.co.uk/news/extra/zBjyQun5Pk/Crazy-golf-UK-1 (31 May 2019)

- The World Crazy Golf Championships, and information about various Golf players and golf clubs.

-Top 4: https://www.bbc.co.uk/news/extra/sd9LGK2S9m/battle_over_blame (17 June 2019) - Ethiopian Airlines rejects accusations of pilot error after a plane accident.

B, Keywords for queries

	Keyword query	URL/ Link sharing query
BBC	"BBC News", (BBC + Panorama/"Politics Live"/"This World"/"Question Time"/ "This Week"/"Daily Politics"/"Andrew Marr Show"/Newsnight/ Newsround/Newsroom/"Victoria Derbyshire"/"Stacey Dooley")	bbc.co.uk/news/ bbc.co.uk/naidheachdan/ bbc.co.uk/cymrufyw/
Channel4	"Channel 4", Dispatches/"Unreported World"/"Last Leg"	channel4.com/news/
LBC	LBC	lbc.co.uk/news/
The Guardian	"The Guardian"	theguardian.com
The Times	"The Times"	thetimes.co.uk
Sky News	"Sky News", "Ridge on Sunday"	news.sky.com
CNN	CNN	edition.cnn.com
The Daily Mail	"Daily Mail"	dailymail.co.uk
Buzzfeed	Buzzfeed	buzzfeed.com
LADbible	LADbible	ladbible.com

C, Limitations

Semantic query limitations:
The semantic keyword query generates broader results than the link sharing query because it searches for words, which yields less accuracy than the method of searching for links. For instance, the 'The Times' keyword query collects social media entries that includes 'the times' as a reference to time, not the news provider. However, "BBC news" is not as heavily affected by this potential data pollution.

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INSIGHTS WITHOUT ASKING

Gender Identification:

Talkwalker detects gender based on user handles – checking the user's first name against a database. This is only available when a public social media profile includes a first name. Talkwalker takes the source country into account. For example, users named 'Andrea' would be detected as female if from the UK and as male if from Italy. There are limitations to this AI-driven identification as not all first names can be precisely assigned a gender.

Geolocation definition

- The research uses geolocation to determine if a given social media post is from the UK, and to discern England, Wales, Scotland or Northern Ireland as the location of the user behind the social media post.
- Due to the pentitude of social media platforms that play host to conversations, different capabilities are used detect the geolocation of a post:
    - If the geolocation is shared in the meta-information of a post, Talkwalker obtains very accurate geolocation of the location the user shared at the time of posting. This level of granularity is available with, for example, Twitter or Instagram data, where the user setting includes location data.
    - Conversations taking place on websites, such as blogs or forums, enables Talkwalker to use the IP address of the domain, whenever available. If there is no IP address the tool looks at the ending of the domain in order to determine the source country (eg., www.repubblica.it/ would be detected as Italy, as it ends with .it)
    - If the source country was otherwise detected but no precise data is available, then the results would be placed on the capital city of the assigned country (eg., on Paris for France, Rome for Italy…)
- For Twitter specifically, geolocation layers are:
    - First Talkwalker takes Geolocation if it is on,
    - If not then location from the Twitter Biography,
    - If none is available then it looks at the language.
    - Country names or codes in the handle are also analysed.
- If the tool precisely detects the exact location (coordinates/city), then results would be placed accordingly on the world map.
- Data size limitations by geolocation: The applied social media scraping software cannot always discern the geolocation where the social media post originates from. Posts without geolocation information were automatically excluded from the quantitative location analysis.