

The Role of News Sentiment in Understanding Current Events

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News sentiment—the opinions, emotions, or attitudes presented in the news— can play a significant role in customer and investor behavior. As a result, brands and organizations, for example, may want to know the sentiment regarding a particular product or a relevant event. They may also want to discover any correlations between an article’s virality and the different entity sentiments in it. Financial institutions can also use news sentiment to gain insight into future market movements.

How then, can organizations best measure news sentiment to gain these types of insights?

A Quick Introduction to Measuring News Sentiment

News sentiment analysis is typically measured on two levels:

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- *Document-level sentiment* – the sentiment of a news article as a whole
- *Entity-level sentiment* – the sentiment associated with an entity (i.e. a person, place or thing) *within* a news article

The Advantage of Entity-Level News Sentiment

Sometimes a holistic view of the news sentiment of an article isn't sufficient. An article might be positive on the whole, while most of the entities mentioned could have an associated negative sentiment. The article-level sentiment can also affect the entity-level sentiment. Different entities can also have widely different sentiments. For example, an organization's brand name might have a positive sentiment while its stock ticker might have a negative sentiment.

Tesla Example

Let's take an example search query using our Enriched News API for articles mentioning Tesla's Cybertruck with an overall positive sentiment polarity. Within these articles, other associated entities may have a neutral or negative measurement. This article on the left below about a tweet announcing the new Tesla Cybertruck has a positive sentiment for the article as a whole, but it detects a negative sentiment for "Elon Musk"; a neutral sentiment for his Twitter handle "@elonmusk"; a neutral sentiment for "lorry" (truck in British English) and a positive sentiment for "Twitter"!

"Tesla Cybertruck" sentiment.polarity:positive

The screenshot displays two news article cards. The left card, titled "Elon Musk teases Tesla Cybertruck release date in tweet", shows a "Positive" sentiment and statistics: Site Rank 287, Social Interactions 2,868, and Article Statistics 286 reads. Its entities list includes "Twitter", "lorry", and "Elon Musk", with "Elon Musk" highlighted in red. The right card, titled "Elon Musk says Tesla Cybertruck update 'probably' coming soon", also shows a "Positive" sentiment and statistics: Site Rank 196, Social Interactions 1,566, and Article Statistics 226 reads. Its entities list includes "lorry", "Elon Musk", "company", and "update", with "Elon Musk" highlighted in green. Both cards also show category and image recognition data.



Other articles about the Tesla Cybertruck have a different set of sentiments for the same entities. In the result on the above right, "lorry" is neutral and "Elon Musk" is positive.

Stock Example

Here is another query for articles with a positive sentiment polarity about the stock ticker TSLA.

ticker:TSLA sentiment.polarity:positive

As the examples below show, the article on the left about Tesla's stock price has an overall positive sentiment, but a *negative* sentiment for "stock." The article on the right, however, has an overall positive sentiment, but a *positive* sentiment for "stock."

The image displays two side-by-side screenshots of a news analysis tool. The left screenshot shows an article titled "Tesla's stock price just took a huge hit, but that has nothing to do with a \$1.5-billion bitcoin sta..." with an overall sentiment of "Positive" and a sentiment for "stock" of "Negative". The right screenshot shows an article titled "Bull Signal Says TSLA Could Stage a Rebound" with an overall sentiment of "Positive" and a sentiment for "stock" of "Positive". Both screenshots show various statistics like Site Rank, Social Interactions, and Article Statistics.

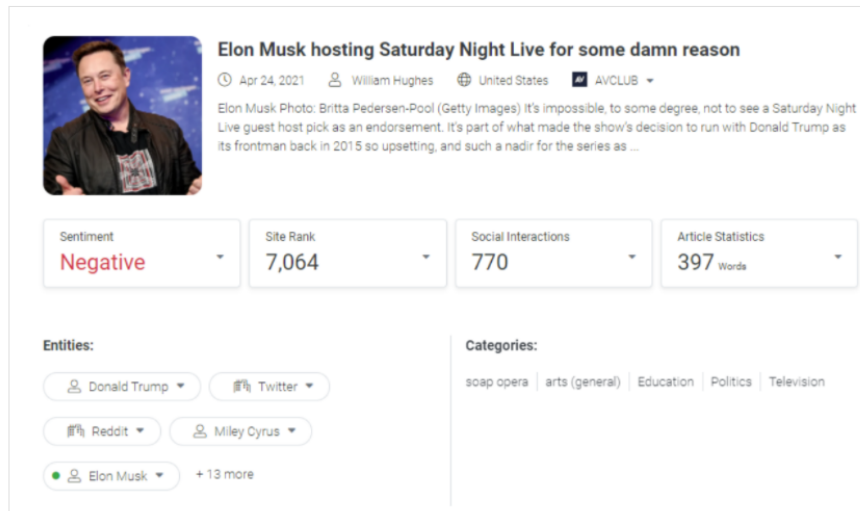
Again, other articles on the same subject can detect different sentiments for the same entity. The article on the above right about Tesla's stock has an overall positive sentiment for the article and detects a positive sentiment for "stock."

Elon Musk SNL Host Example

Another important point to keep in mind is that an article written with irony and/or

subjectivity can influence the entity sentiment. For example, if Elon Musk has a negative sentiment, but the article is written in an ironic or subjective tone, it's not the same as if Elon Musk has a negative sentiment in a more objective news article.

*"Elon Musk" sentiment.polarity:negative sentiment.irony:false
article.sentiment.subjectivity:true*



The screenshot shows a web interface for analyzing an article. At the top, there's a profile picture of Elon Musk and the article title "Elon Musk hosting Saturday Night Live for some damn reason". Below the title, it shows the date "Apr 24, 2021", author "William Hughes", location "United States", and a flag icon for "AVCLUB". A short excerpt of the article follows. Below the excerpt are four summary boxes: "Sentiment" (Negative), "Site Rank" (7,064), "Social Interactions" (770), and "Article Statistics" (397 Words). Underneath are sections for "Entities" (listing Donald Trump, Twitter, Reddit, Miley Cyrus, and Elon Musk) and "Categories" (listing soap opera, arts (general), Education, Politics, and Television).

The article above has an overall negative sentiment, but a positive sentiment for "Elon Musk." This article was written for a publication about pop culture and does not have an ironic tone.

Conducting Entity-Level News Sentiment Analysis at Scale

All of these different entity-level search results are interesting, but analyzing articles individually doesn't demonstrate the full value of entity-level sentiment. It's when thousands of articles and entities are aggregated at scale that the real magic happens.

Here is a partial list of entities detected from a search for the topic of "Olympics" and their corresponding positive measurement in 9,547 articles.

Entity	Description of Entity	Positive Sentiment	Total Number of Mentions
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Carmelo Anthony	US basketball player who qualified for Tokyo Olympics	81.82%	213
Alejandro Sancho	US wrestler who qualified for Tokyo Olympics	79.17%	56
Andres Perea	US soccer player who qualified for Tokyo Olympics	77.42%	80
Kayla Miracle	US female wrestler who qualified for Tokyo Olympics	75.00%	32
Adeline Gray	US female freestyle wrestler who qualified for Tokyo Olympics	75.86%	67
David Ochoa	US soccer player held responsible who qualified for Tokyo Olympics	71.60%	177
Sam Vines	US soccer player whose assist helped US qualify for Tokyo Olympics	70.37%	177
Aaron Herrera	US soccer player who qualified for Tokyo Olympics	68.60%	181
Jesus Ferreira	US soccer player who qualified for Tokyo Olympics	66.67%	110
Jonathan Lewis	US soccer player who qualified for Tokyo Olympics	63.51%	172
Sebastian Saucedo	US soccer player who qualified for Tokyo Olympics	60.00%	177
Jackson Yueill	US soccer player who qualified for Tokyo Olympics	60.27%	166
Djordje Mihailovic	US soccer player who qualified for Tokyo Olympics	58.93%	124

Insights into the Tokyo Olympics

Interestingly, athletes qualifying for the United States Olympic basketball and wrestling teams had the highest entity sentiment scores averaging around 80%. The scores were slightly higher for male wrestlers than for female wrestlers, but not by much.

If we compared a list of the number of times "male" and "female" appeared in the different articles and their corresponding sentiment, would there be a significant difference? Can we attribute this difference to a preference for male athletes over female ones?

Another highlight we found was that soccer athletes qualifying for the US team had lower positive sentiment scores ranging from 58% to 70%. Can we correlate this result with how





Americans perceive soccer as a sport? In general, do more experienced athletes, who would also get more mentions in the media, have a tendency to have a higher positive sentiment?

Finally, if we drill down according to the author or reporter of different articles, would we see that articles by the same reporter on a certain sport or about particular athletes have a higher or lower sentiment? Does this sentiment reflect an accurate public opinion of those sports or athletes?

These are all types of insights that entity-level sentiment can help deliver.

Accurate News Sentiment Analysis Starts with High-Quality Data

News sentiment analysis at the entity level delivers a more granular viewpoint. This is particularly valuable when looking at thousands of articles and entities to determine patterns and trends. Financial institutions can then apply these insights to their predictive models. Brands can start to distinguish between changes in brand or product sentiment. Organizations conducting risk intelligence can more easily detect adverse media.

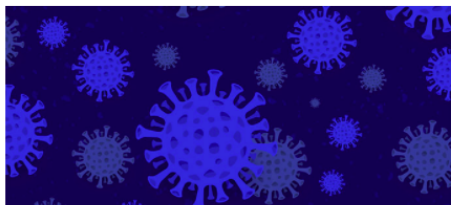
Webhose's Enriched API can give these organizations the high-quality news sentiment analysis they need – on both the article and entity level.

Want to get started infusing high-quality NLP-enriched news into your product or application? [Contact our data experts today!](#)



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