



brandwatch

Sentiment Analysis

Introduction

Businesses tune in to social media chatter to find the conversation around a brand or topic. Such insight enables brands to understand and engage with customers. Your motivation for social media monitoring might be to gauge the volume of mentions, monitor reputation, review customer complaints, run market research or all of the above and more.

Reputation is everything. So you will probably want to assess the customer sentiment around your brand too.

It's this last point that can be tricky, but so important. If you are looking to choose the right sentiment analysis tool, you will need to consider key factors such as accuracy of data, of which there are varying degrees delivered by different solutions (more on this later), the cost of the tool and the speed at which it can assess and return sentiment analysis.

It is these main factors that Brandwatch holds central to its sentiment analysis solution – one that is based on a combination of approaches to ensure the most accurate, cost effective and real-time results are delivered.

What is sentiment analysis?

For those new to sentiment analysis, it is the process used to determine the attitude, opinion and emotion expressed by a person about a particular topic. Within social media monitoring, this expression refers to the text based content found online in social media platforms like Twitter and the many forums people use to discuss their experiences.

Most sentiment analysis tools aim to categorise these mentions in to positive, negative or neutral mentions to help a brand measure the overall customer sentiment behind their brand.

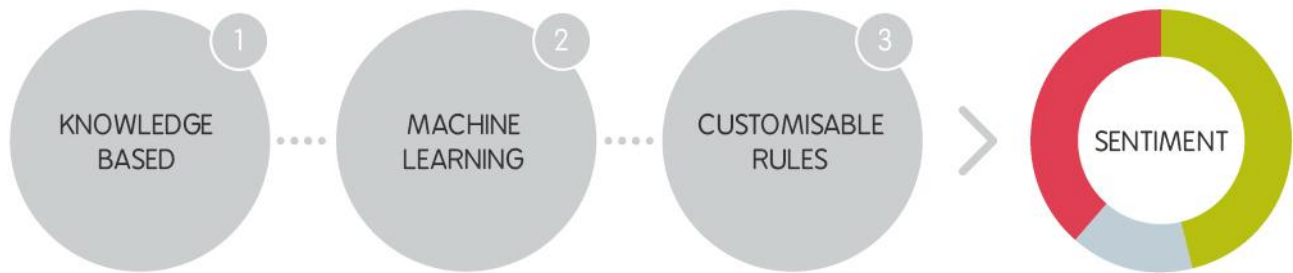
contact

e: contact@brandwatch.com **w:** <http://www.brandwatch.com>
t: +44 (0)1273 234 290 (uk) +1 212 229 2240 (usa) +49 (0)711 912 442 04 (germany)

Brandwatch sentiment analysis

The sentiment analysis team at Brandwatch is PhD qualified with a range of skills and expertise in linguistic analysis and language processing. This team of expert minds has developed a hybrid approach using a combination of manual and automated natural language processing (NLP) techniques. These work together to deliver the highest degree of accuracy possible when analysing text for sentiment. We call these processes 'knowledge based', 'machine learning' and 'rules based'.

The team has refined each of these processes to deliver the best overall results when combined.



This document provides a summary of the process Brandwatch has developed to confidently assess whether a piece of text (a mention) is positive, negative or neutral.

Step 1 – Knowledge based analysis

The first stage is to run each mention through our knowledge-based classifiers. These classifiers are made up of rules that are unique to Brandwatch and have been defined and set up by our sentiment analysis experts. Once defined, these rules are automatically able to identify common positive and negative statements used by people across the web.

The rules are set up to recognise not only the sentiment of a statement but also the object of what the negative and positive sentiment is about. So for example, the system understands how to break out the sentence

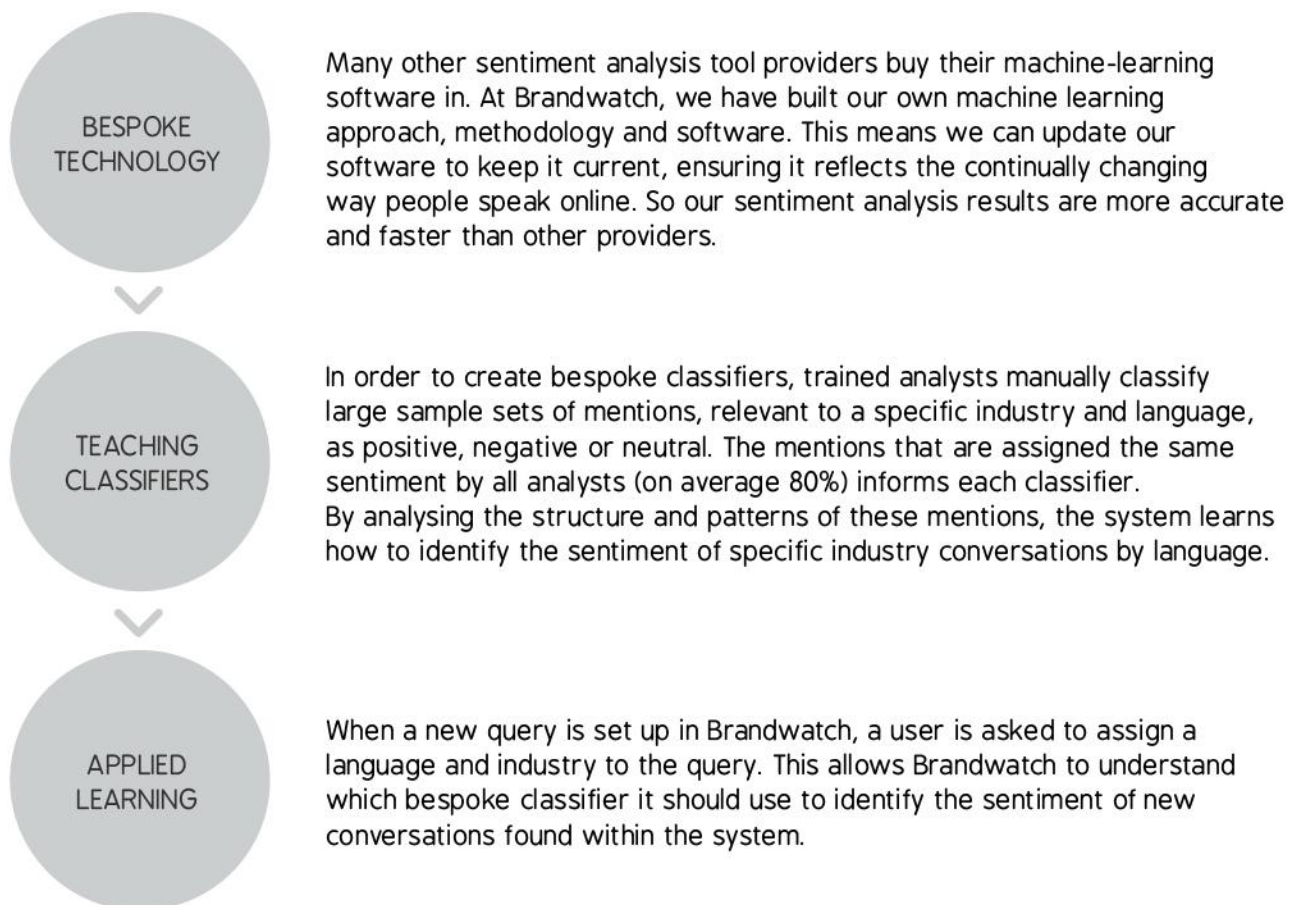
'LG is better than Samsung'

By looking at not only the words used in the sentence but also the order in which they're used, the system understands that 'LG' is being spoken about positively and 'Samsung' negatively.

Step 2 – Machine learning analysis

Step two deals with mentions that sit outside of the more common positive and negative statements already categorised as part of the 'knowledge based' analysis described in Step 1. Our machine-learning classifiers are 'taught' to identify the sentiment of conversations specific to a particular language and industry. Languages are very complex and individual words can take on different meanings depending on their context. For example if someone were to describe their new video game as "sick" we would understand this to be positive. However, if we were to describe a restaurant meal as "sick" we would understand this to be negative. Our classifiers are able to read a mention in relation to the typical characteristics of the conversations of customers in a specific industry.

The breakdown below explains the process Brandwatch has developed for this integral part of assessing and applying sentiment;



Step 3 – Customisable Rules

The final part of our hybrid approach allows you to categorise and define rules that can be manually applied to sets of mentions. This allows users to create their own customised rules to determine sentiment, which is useful when unusual or unexpected events occur not typical of a specific industry.

This is seen as a safety mechanism by many Brandwatch clients who use it for unexpected conversations and brand specific stories. For example, if a tarantula were to be found in a pair of high-street shoes, the system may not have seen mentions of “spider” and “stilettos” in the same mention and may therefore not understand that this is a bad thing. As far as the system is concerned, this may be a new fashion trend! In the Brandwatch tool, users are able to create a search for related conversations and using our “Rules” functionality, can change the sentiment of all matching and relevant conversation to ‘Negative’. This can be done not only after the data has been collated, but also as Brandwatch pulls mentions through in real-time.

There are many sentiment analysis tools that don't allow you to manually reassign sentiment to your data. The ability to create and assign your own sentiment rules can be done easily within the Brandwatch tool. You don't need to be an expert at the NLP techniques described in step 1 and 2 above, although your account manager is always on hand if you need any help.

It is also worth noting that the ability to customise and apply rules to sentiment data is also a function available for other types of data in the Brandwatch tool.

In summary

It is important to remember the degree of subjectivity and context a person applies, even sub-consciously, when interpreting information. To replicate this process and teach a machine to automatically apply accurate sentiment to text is extremely complex.

To illustrate this, our sentiment analysis team conducted an accuracy test to gauge the level of agreement that was achieved when humans physically categorised a set of mentions in to positive, negative or neutral. The rate at which our human analysts agreed on the sentiment of mentions within the positive and negative mentions varied between 30-80%. A higher degree of agreement was reached for neutral mentions, at around 80%, as these mentions are easier to agree on.

The point to remember is that accuracy of sentiment analysis may never exceed 80%, whether assessed by a group of people or by a machine. This doesn't mean results are de-valued as there is still great benefit in the level of insight sentiment analysis can provide, as well as revealing underlying trends.

Our sentiment analysis team continually works hard to evolve our approach for the most accurate sentiment results. Additional classifiers and languages are added all the time so our processes are based on the latest language used by customers online across industries.

The end result is sentiment analysis applied to your data that is:

- Fast
- Accurate
- Cost efficient
- Flexible

To recap in a very small nutshell, our hybrid approach to sentiment analysis follows these steps:

1. **Knowledge Based:** A mention is processed through a knowledge based rule and automatically categorised as positive, negative or neutral. Each rule reflects generic and common language characteristics and is not specific to industry.
2. **Machine Learning:** A mention unclassified (or neutral) by our “Knowledge Based” system is put through a language and industry specific classifier that has been ‘machine-taught’ to identify the sentiment of a mention.
3. **Customisable Rules:** Rules specific to unusual events or brand specific conversations can be set up and applied to sets of mentions by Brandwatch users to further refine your results.

Coming soon...

For those who would like more information, we are working on a more detailed document on sentiment analysis. This will cover more about how our system works. We will be including some lovely examples to help you get your head around the whole thing! If you'd like to receive this when it is ready please email marketing@brandwatch.com and title your email “Sentiment.”