

Headline: [Can bots decipher public sentiment to trade?](#)

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# Can bots decipher public sentiment to trade?

Bots can follow news trends but can they decipher news sentiment to make investment decisions? It's a double-edged sword

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In 2018, one of the largest buy side quant hedge funds in the US commissioned a project on a crowd research platform—the topic was 'Using news analytics to achieve investment out-performance'.

According to Tabb Group report, market makers in the US reported \$1.1 billion in revenue in 2016. That compares to \$7.2 billion in 2009. Sophisticated investors are now turning to quantitative models and artificial intelligence to create their competitive advantage.

Alternative data is now a major focus across both buy side and sell side. And one of the most important sources of alternative data for the financial community is public news and social media based sentiments.

Trading based on news is nothing new. Trading based on news sentiments is relatively young. Early versions of automated trading systems were mostly designed to react to news based on keywords. These days, they are increasingly more sophisticated.

The roots of sentiment analysis can be traced back to computational linguistics in the 1990s. However, most advances in this field coincided with the increasing availability of public data on the internet. Sentiment analysis includes detection of the underlying emotional sentiment in the relevant text (e.g. an online product review or transcripts of company annual shareholders' meeting). It aims to identify whether the underlying tone of the text is positive or negative.

In a previous [article](#), we had discussed the various approaches for social media-based sentiment analysis. Multi-dimensional analysis becomes important for news media or blogs, where the length of the text can be larger and difficult to reduce to a dichotomy of positive and negative. This includes

- polarity (to identify positive or negative emotions),
- [affectivity](#) on the linguistic analysis side;
- novelty measures to identify possible impact; and
- entity (the underlying stocks) / geo-location mapping to generate actionable intelligence.

Another important metric related to news feeds for trading bots is scriptability, the ease of computerised information processing of news text. Most leading news service providers offer application programming interface (API) these days, for consuming news feed directly in a machine-readable format. Scriptability and speed of dissemination are key parameters for a news feed for high-frequency trading systems.

**Does sentiment-based trading work?** The academic evidence is mixed. The impact of sentiments on market prices can be classified into a surprise factor and a persistence factor. The surprise factor can be thought of as breaking news. The key criteria to successfully trade on it are access to a high-speed news-wire and the ability to correctly interpret the results. It is certainly profitable to be able to react quickly to a surprise earnings announcement or a central bank rate cut. But sometimes it can go wrong spectacularly.

In 2011, when the death of Osama Bin Laden splashed newspapers across the globe; many news trading bots reportedly went on a selling spree. These automated systems were trained to associate the name in a news headline with terrible events and an equity market sell-off. They failed to identify the positivity of the news for the markets.

At lower frequency, [studies](#) suggest the lagged social media and news sentiments have predictive power over monthly intervals. There is also [evidence](#) that across asset classes, investors' under-reactions to news are one of the major drivers of momentum returns. A portfolio based on news momentum gives economically and statistically significant returns across markets.

On the other hand, sentiment trading probably does not work in the way most of us would expect. The evidence is mixed, at best, for market-timing strategies based on news or social media sentiment analysis. This is especially true for retail traders without a high-speed newswire feed.

Sentiment analysis is, without doubt, one of the most talked about "new" source of data in recent media articles. Sentiment analysis may provide a systematic edge. But that will depend on how intelligently we frame it. As with most other alternative data, we are probably on the cusp of a hype cycle. The ecosystem will evolve and mature. Instead of pure sentiment analysis, the focus will be on building it as part of a larger set of alternate data—including transactions, and layering it with price and risks data.

At an intuitive level, sentiment analysis has a natural appeal. The global economy is, after all, driven by humans and their sentiments. The open question is the right approach to understand and exploit this.

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