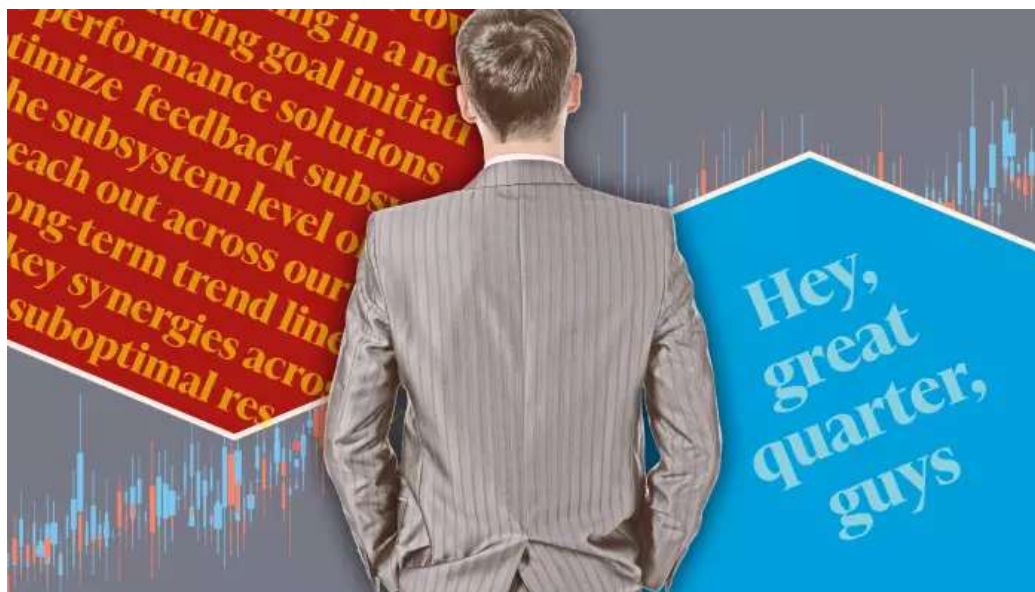


Investment research

AI decodes trading signals hidden in jargon

Money managers are learning to search for clues in the spoken word



Robin Wigglesworth OCTOBER 26, 2017

On a second-quarter earnings call in late April, the head of US software maker Seagate Technology was asked about his company's acquisition strategy. The response was a masterclass in gobbledegook.

"I think from our perspective, we've always viewed this business as attractive in terms of its core business of selling into OEMs as well as servicing cloud service providers at one level, but really the opportunity to, I think, as architectures evolve and different customer needs evolve, to have the capability to optimise the devices either at the device level, at the subsystem level or the systems level, and if you do not have the software capability to do that, you really cannot take advantage of what we think would be a potentially significant long-term trend," Stephen Luczo told analysts on a day the company also announced he was changing his role from chief executive to executive chairman.

However, hidden in this verbiage was a potentially valuable trading signal. According to research by S&P Global Market Intelligence, earnings calls that feature more complicated, long-winded and polysyllabic language tend to presage stock declines. Indeed, Seagate's shares tumbled nearly 17 per cent on its second-quarter earnings.

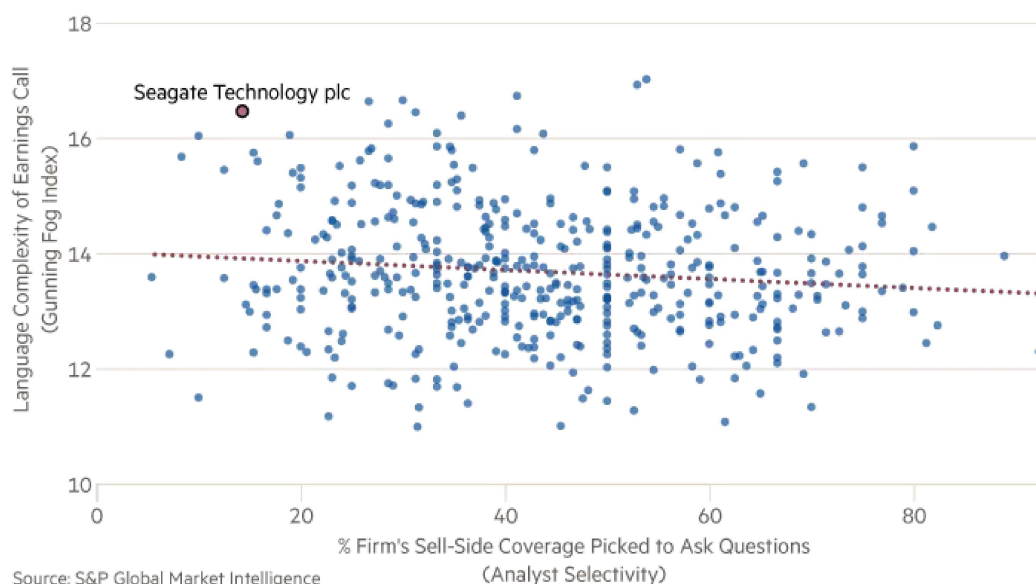
This could be coincidental, but the company's conference call with analysts featured some of the most convoluted language of all S&P 500 companies in the second quarter, according to S&P Global.

"When people have good news, they tend to say it directly. When they have bad news, they tend to dance around it," says David Pope, head of "quantamental" — a mix of quantitative and fundamental — research at S&P.

Money managers always parse through reams of financial data for clues on how a company is faring. But words matter too. Investment groups have become increasingly entranced at the potential of artificial intelligence to revolutionise their industry, and one of the hotter fields is called “natural language processing”, which involves teaching machines to understand the nuances of human language.

Complex communication confounds markets

More convoluted second-quarter earnings calls weighed on stocks



In the industry jargon, text is known as “unstructured” data because it does not come in numerical values and is therefore hard to turn into clean, tradeable signals. Yet swelling computing power and strides in programming has allowed data scientists to turn text into a potential gold mine for investors.

“With the rapid development and innovation in computing power and machine learning algorithms, processing unstructured textual information to generate useful numerical signals becomes increasingly important,” Yin Luo, vice-chairman and head of quantitative research at Wolfe Research, noted earlier this year.

Take earnings calls. A common joke is that analysts always tend to say “great quarter guys” to ingratiate themselves with management and gain privileged access. But Goldman Sachs Asset Management’s quants have discovered that if most analysts say something along those lines, then it probably will have been a great quarter, and price target updates are likely in the pipeline.

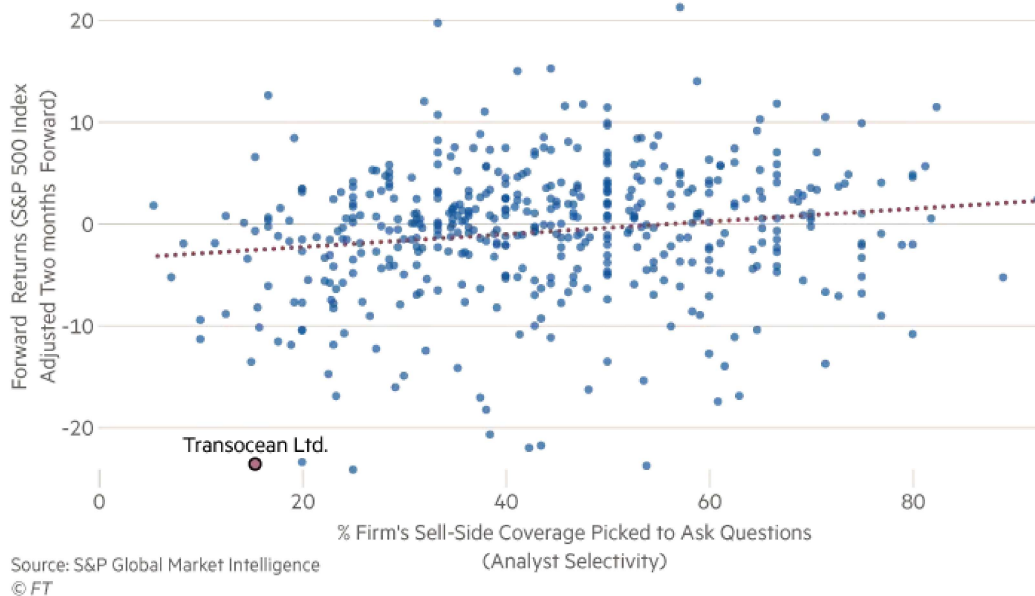
Even a team of human analysts could not scour thousands of transcripts to document this, but a machine can do so — and implement a trade — in seconds.

Failing to engage with analysts can also be a bad sign. S&P estimates that company executives who fielded the fewest number of questions from analysts on their earnings calls saw their shares record an average underperformance of 2.14 per cent over the following two months.

For example, after its second-quarter results in early May, Transocean, the offshore driller, only took questions from four of 26 analysts that cover the company, or just over 15 per cent. The second-quarter average was 44 per cent, and the company's shares lost about a fifth of their value between then and Transocean's next results in early August, lagging behind oil prices.

Analyst engagement seems to pay off

Companies that called on more analysts in second quarter enjoyed stronger gains



Of course, there are a multitude of issues that can affect stocks, and the challenge is to disentangle what could be valuable signals in text-based data from the usual noise of markets. For quants, “overfitting” — finding spurious, random correlations in data sets — is a cardinal sin, and one that is easily committed by many high-powered algorithms that are not sanity-tested by humans. S&P Global’s preliminary results are based on just one quarter’s worth of data.

But natural language processing, usually shortened to NLP, is gaining ground and attracting attention. Prattle, a company that uses NLP to systematically scan speeches and papers by Federal Reserve officials — [scoring them as hawkish or dovish](#) and in a flash sending the signal to hedge fund subscribers — is now building up an analytical platform for equities as well.

Applying its central banking analysis to corporate statements was a next step in its evolution, according to Evan Schnidman, Prattle’s chief executive. “Quantifying things that before were unquantifiable is now becoming common,” he says.

The interest is also broadening. NLP has primarily been used by sophisticated quantitative hedge funds, but Mr Pope and Mr Schnidman are both seeing increasing demand from traditional asset managers who are desperate for novel ways to burnish their investment returns. Even sovereign wealth funds are experimenting.

“Data is being generated and digitally captured at an exponentially increasing rate, and NLP is an important part of our strategy to understand what is going on across the global markets we

invest in,” says Kevin Lee, head of data science at GIC, Singapore’s SWF. “Everyone is at least looking at them, otherwise you risk falling behind.”

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