

December 22, 2010

Computers That Trade on the News

By **GRAHAM BOWLEY**

The number-crunchers on Wall Street are starting to crunch something else: the news.

Math-loving traders are using powerful computers to speed-read news reports, editorials, company Web sites, blog posts and even [Twitter](#) messages — and then letting the machines decide what it all means for the markets.

The development goes far beyond standard digital fare like most-read and e-mailed lists. In some cases, the computers are actually parsing writers' words, sentence structure, even the odd emoticon. A wink and a smile — ;) — for instance, just might mean things are looking up for the markets. Then, often without human intervention, the programs are interpreting that news and trading on it.

Given the volatility in the markets and concern that computerized trading exaggerates the ups and downs, the notion that Wall Street is engineering news-bots might sound like an investor's nightmare.

But the development, years in the making, is part of the technological revolution that is reshaping Wall Street. In a business where information is the most valuable commodity, traders with the smartest, fastest computers can outfox and outmaneuver rivals.

"It is an arms race," said Roger Ehrenberg, managing partner at IA Ventures, an investment firm specializing in young companies, speaking of some of the new technologies that help traders identify events first and interpret them.

Many of the robo-readers look beyond the numbers and try to analyze market sentiment, that intuitive feeling investors have about the markets. Like the latest economic figures, news and social media buzz — "unstructured data," as it is known — can shift the mood from exuberance to despondency.

Tech-savvy traders have been scraping data out of new reports, press releases and corporate Web sites for years. But new, linguistics-based software goes well beyond that. News agencies like [Bloomberg](#), [Dow Jones](#) and [Thomson Reuters](#) have adopted the idea, offering services that supposedly help their Wall Street customers sift through news automatically.

Some of these programs hardly seem like rocket science. Working with academics at [Columbia University](#) and the [University of Notre Dame](#), Dow Jones compiled a dictionary of about 3,700 words that can signal changes in sentiment. Feel-good words include obvious ones like "ingenuity," "strength" and "winner." Feel-bad ones include "litigious," "colludes" and "risk."

The software typically identifies the subject of a story and then examines the actual words. The programs are written to recognize the meaning of words and phrases in context, like distinguishing between "terribly," "good" and "terribly good."

Vince Fioramonti, a portfolio manager at Alpha Equity Management, a \$185 million equities fund in Hartford, uses Thomson Reuters software to measure sentiment over weeks, rather than minutes or hours, and pumps that information directly into his fund's trading systems.

"It is an aggregate effect," Mr. Fioramonti said. "These things give you the ability to assimilate more information."

Bloomberg monitors news articles and Twitter feeds and alerts its customers if a lot of people are suddenly sending Twitter messages about, say, [I.B.M.](#)

Lexalytics, a text analysis company in Amherst, Mass., that works with Thomson Reuters, says it has developed algorithms

that make sense out of Twitter messages. That includes emoticons like the happy-face :) and the not-so-happy :\.

Skeptics abound, but proponents insist such software will eventually catch on with traders.

“This is where the news breaks,” said Jeff Catlin, the chief executive of Lexalytics. “You have a leg up if you are a trader.”

The computer-savvy traders known as quants are paying attention. According to Aite Group, a financial services consulting company, about 35 percent of quantitative trading firms are exploring whether to use unstructured data feeds. Two years ago, about 2 percent of those firms used them.

Quants often use these programs to manage their risks by, say, automatically shutting down trading when bad news hits.

But industry experts say the programs are also moving the markets. Last May, as Greece’s financial crisis deepened, Wall Street computers seized on a news story with the word “abyss” in the headline and initiated sell orders, according to industry experts.

But some warn of a growing digital divide in the markets. Well-heeled traders who can afford sophisticated technology have an edge over everyone else, these people say.

Paul Tetlock, an associate professor at Columbia University who did research that was used to create the news algorithms, worries that technology has skewed the playing field. Regulators, he said, should keep a close eye on these high-speed traders.

“People are trading news at very high frequency,” he said. “People worry about that.”

But the experts are already talking about the next thing — programs to automatically digest broadcast and closed-caption television.

Adam Honoré, the research director at Aite Group, said the innovations did not end there. He said some traders were using software that monitored public statements by corporate executives and administered the computer equivalent of a lie-detector test.

“It is the next wave of trading,” Mr. Honoré said of unstructured data. “It goes hand in hand with more and more of everyday life being digitized.”