New Approaches to Stock Research

How Social Media & ‘Big Data’ Are Transforming Research

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Integrity Research Associates

Founded in 2003, tracks over 4,000 research providers

Retained by institutional investors to evaluate external research

Provides quarterly research firm scorecards on Fidelity.com: https://eresearch.fidelity.com/eresearch/goto/scorecards.jhtml

Daily commentary on events impacting research industry: www.integrity-research.com
Initial Observations

As it becomes more pervasive, social media is impacting research in a variety of ways: news, market sentiment, data mining and research distribution.

Big data analytic tools are making it easier and cost effective for analysts to mine data from the web and other sources.

Crowd-sourcing and automation are changing the role of the research analyst.

New technologies are not without risks, and regulators are working to keep up.
“The pace of technological change is forcing a shake up in the traditional investment research industry. As the hunt for alpha generation becomes ever more intense, fund managers will need to adopt new technologies to stay ahead of peers.”

--Thomas Balk, former head of Fidelity International, March 2016

“We’re still in the early innings, but I think the application of crowdsourced financial information from Twitter is only going to get more exciting as the research community continues to generate new discoveries. The importance of it has definitely been established, and it’s not going away.”

--Jim Kyung-Soo Liew, Johns Hopkins Carey Business School, author of “Twitter Sentiment and IPO Performance: A Cross-Sectional Examination”
Social Media Can Move Markets

A tweet by Carl Icahn caused Apple’s stock price to add $12.5 billion in market value.

We currently have a large position in APPLE. We believe the company to be extremely undervalued. Spoke to Tim Cook today. More to come.
Social Media Can Disrupt Markets

The Hash Crash in April 2013 took 140 points off the Dow in two minutes after the AP Twitter account was hacked and tweeted about explosions in the White House.
Social Media Adoption: Brand Analytics & Finance

Source: Gnip
Social Media Use Case #1: News

Last year StockTwits’ founder Howard Lindzon claimed his firm had 1.2 million monthly users (compared to CNBC’s 8.4 million) and had gotten to that point more quickly and cheaply than CNBC.
Selerity, a big data analytics firm that trolls Twitter along with other sources, tweeted an early version of Twitter’s disappointing earnings release that had mistakenly been posted on the public web. Six seconds later Twitter stock plunged causing a brief suspension of trading on the New York Stock Exchange.
In 2013, the Securities and Exchange Commission cleared Netflix CEO Reed Hastings of violating Regulation Fair Disclosure when he posted a market moving piece of corporate news on his Facebook page. The agency ruled that using social media sites could be an appropriate means of distributing important corporate information in certain circumstances.
“Our PhDs have come up with a series of metrics that describe social conversations on Twitter in a statistically significant manner.”

--Joe Gitts, founder Social Market Analytics
Social Media Use Case #3: Data Mining

A recent startup seeks to identify patterns in social media that are predictive of political risk. The firm monitors about 1,000 Twitter feeds, 10,000 Wikipedia pages, 50,000 YouTube videos, and several dozen newspapers and magazines in some 200 countries to cover 300 topics, including news about individual companies, Brexit, and interest rate decisions by central banks.
Kevin Kaiser, a 26-year-old energy analyst at an independent research firm, jolted Kinder Morgan, North America’s largest oil and gas pipeline and processing company, with a Twitter post and an email sent to clients on September 4th claiming Kinder Morgan and its associated companies “is a house of cards, completely misunderstood and mispriced.” Kinder Morgan Inc. (KMI) shares dropped 6 percent taking $4 billion off the company’s market capitalization.
Changing Demographics

As millennials (and the succeeding Generation Z) continue to come into their own, there will be two mutually reinforcing effects: 1) the quality of social media data will continue to improve as it becomes even more central than it is today; and 2) social media will become more integrated into financial markets as more digital natives become producers and consumers of research.
In analyzing retail companies and other companies with strong digital business lines, analysts are incorporating more ‘big data’ metrics to assess the company, whether sourced from social media, web traffic statistics, or web scraping.
Web Scraping Is Becoming a Valuable Research Tool

Analysts can assess pricing trends for anything being sold digitally, from groceries to automobiles. Analysts can evaluate new product introductions and product life cycles by scraping product reviews on consumer websites.
A startup uses thousands of Python scrapers to harvest data from government websites and applies machine learning techniques to predict whether proposed legislation will pass.
The Web Is Not the Only Source of Big Data

Research analysts are beginning to explore data generated by sensors such as satellites or traffic monitoring relays, phone data, credit card and other transaction data, among others.
As satellite imaging has become more ubiquitous, geospatial analysis is being applied to securities research. A few firms are performing car counts to gauge sales trends at retailers. The techniques are being applied to industrial production, by counting vehicles at factory sites.
‘Big data’ is also being mined to develop economic metrics to complement or replace government statistics. As one example, firms are experimenting with night illumination images as measures of GDP or industrial production.
Crowdsourcing Research

SeekingAlpha has 4 million registered users, 7 million monthly users, and over 10,000 contributors. An academic study published in 2014 found that stock market ideas published on Seeking Alpha outperformed the research written by Wall Street analysts.

SumZero and Value Investors Club are examples of crowd-sourced investment research from institutional investors looking to both talk their book and get access to ideas from their peers. Value Investors Club was founded in 1999 and has about 500 active members. SumZero, founded in 2008, has a network of over 12,000 buy-side investment professionals.
A study by Deutsche Bank’s Quantitative Research Group showed that crowdsourced earnings estimates on companies with more than 20 contributors were more accurate that Wall Street analyst consensus earnings 2/3rds of the time.
Automating Research

Goldman Sachs has invested in a startup that develops intelligent computer systems capable of answering complex financial questions posed in plain English.
Credit Suisse is using automation software to generate company summaries for one of its research products, increasing the number of written summaries from 1,500 companies to 5,000.
Quantitative Research Often Outperforms Qualitative

In the quarterly analysis we perform on research firms offered through Fidelity.com, research firms using algorithms to select stock often outperform analyst-driven research.
Implications of Crowd-sourcing & Automation

Historically, most investment research has been produced by investment banks. Regulators have tried to minimize the inherent conflicts of this model, but a broader problem has been that most research is targeted to institutional investors not retail investors. Crowd-sourcing and automation, combined with the increasing role of social media in markets, is changing this, democratizing investment research.
Not All Social Media Is Benign

A Scottish man was indicted for securities fraud for spoofing short ideas researchers Muddy Waters and Citron Research to profit from stock declines. From a fictitious Muddy Waters account he allegedly attacked Audience, Inc. driving the share price down 28% and triggering a trading halt in the shares. However he reportedly bungled the timing and his $3,500 order ultimately resulted in a profit of only $9.00.
Ill-gotten Gains From Data Mining

The US Securities and Exchange Commission won a jury verdict against two data analysts who allegedly profited from mining proprietary credit card transaction data collected by the bank where they worked. According to the SEC complaint, the defendants made $2.8 million on a $147,300 investment, a return of about 1,800 percent, by analyzing sales trends for publicly traded retail stocks using the credit card data.
Conclusion

Social media’s influence is pervasive and investment research is no exception. Its power will only increase as millennials and Generation Z continue to mature.

Big data represents a new frontier for securities research and we are still in the early stages of its impact.

Crowd-sourcing and automation are democratizing research.

The power of new technologies can be abused, and investors need to approach them with the same caution they would any investment approach.