- Data -

New to the Risk Management Tool Kit: Alternative Data

A rich lode of novel and unconventional data can supplement traditional information sources; coding skills are a plus.

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By Katherine Heires

According to hedge fund chief risk officer Jack Kim, the full measure of risk in an investment portfolio cannot come from company fundamentals alone.

Getting the complete picture also requires identifying and utilizing what Kim, CRO of New York-based Data Capital Management, refers to as alternative data. Also described as nontraditional or unstructured, or alt-data for short, it can consist of consumer transaction data culled from anonymized emails; mobile app and web traffic data that indicate broad economic trends as well as what brands are popular or going out of favor; and geo-location data showing foot traffic.

Kim regards these as supplementary to the reported financial statistics that investment strategists regularly monitor.

“Using alternative data is the way the asset management industry is going,” Kim insists, not just to enhance investment models and achieve alpha, but also to effectively manage risk.

Adds Tammer Kamel, a former hedge fund risk manager and quantitative analyst who is co-founder and CEO of Toronto-based alt-data provider Quandl (https://www.quandl.com/), “Risk management is all about being cognizant of what could happen in the future, and alternative data sets can help to answer that question. It can be an effective risk mitigation tool.”

This explains why Kim and Data Capital Management have joined the growing ranks of banks, hedge funds and asset management firms in seeking out and incorporating alternative data into their models and strategies.

“Up-to-date and Granular”

Alt-data is variously defined as the use of novel, undiscovered, and obscure data sets to help develop new investment ideas, or any nontraditional data that’s not on the Bloomberg terminal.

Rado Lipuš, founder and CEO of London-based “data scouting” specialist Neudata (http://www.neudata.co), describes alt-data as providing “new factors that can explain macroeconomic behavior, but also micro, stock-level behavior,” by revealing consumer behavior.

Lipuš notes that old-fashioned risk models tend to use backward-looking information, while alt-data enables analysis to be “more up-to-date and granular” with real-time indicators of consumer or business activity. Therein lie signals of economic or company performance in advance of official numbers.

“Looking at a company’s quarterly earnings is ludicrous when you have access to real-time information” such as anonymized credit card sales data, according to Matei Zatreanu, founder and CEO of System2 (http://www.sstm2.com/), a New York company that says it helps analysts “leverage big data to improve model estimates and answer seemingly impossible questions.”

Refined and Sophisticated

Although now being taken to new levels of precision and sophistication, alternative data is not a new phenomenon. Analysts have been working for years with nontraditional or observational data, and large data sets. The quantitative hedge fund firms Renaissance Technologies and Two Sigma Investments are often cited as leading-edge innovators.

Several factors have recently come into play to bring about growing interest in alternative data among a wider user base.

Many fund managers, both alternative and traditional, "have been beaten to death" by poor returns, observes Andrej Rusakov, a partner and co-founder of the big-data and real-time-analytics-driven Data Capital Management, founded in 2015. "Their strategies have been very correlated," forcing them to find new ways to deliver alpha and better manage risk.

"Alternative data is all about getting more and perhaps better information that can move security prices," Rusakov adds.

Measurable Demand

These concepts appeal to quantitative, fundamental and so-called quantamental funds that combine fundamental analysis with alt-data and big-data analysis, as well as to a growing number of mutual funds.

Research firm Greenwich Associates (https://www.greenwich.com/equities/alternative-data-alpha) said in January that in a survey of U.S. and European institutional investment professionals, 80% wanted greater access to alt-data sources.

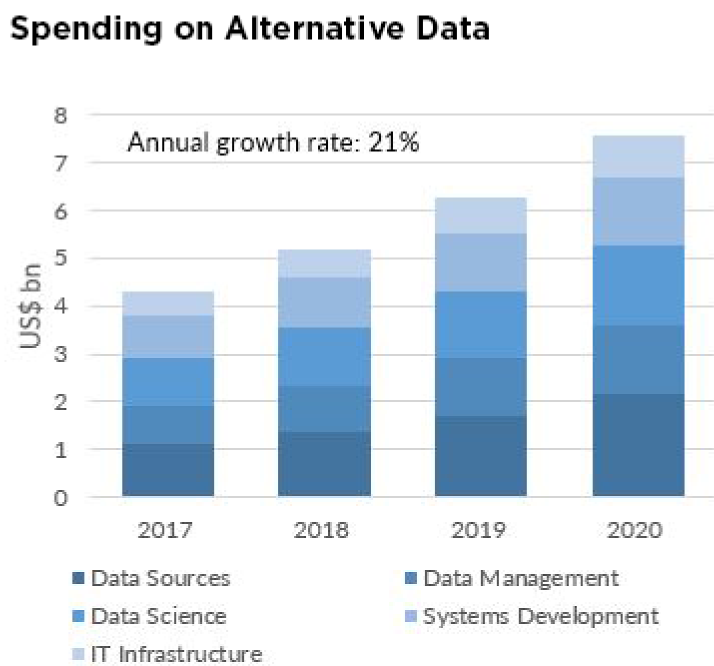
In a March report, capital markets consulting firm Opimas (http://www.opimas.com/research/217/detail/) found that spending on alternative data is growing 21% annually and will exceed $7 billion by 2020.

"Since 2010 there has been an explosion of data, and much of it can be helpful to the investment process, if you know how to extract insights from it," says Emmett Kilduff, a former Morgan Stanley investment banker who is CEO and founder of alt-data service provider Eagle Alpha. The company posts a chart (https://eaglealpha.com/alternative-data/) that delineates 24 categories of alternative data. (CB Insights produced a chart last year showing nine categories (https://www.cbinsights.com/blog/alternative-data-startups-market-map-company-list/) of alternative data sources.)

"In our opinion, the last major change to the investment process was the introduction of expert networks in the late 1990s," the Eagle Alpha web page says. "There is mounting evidence that alternative data is the next major change."

Easier access to advanced technologies – among them artificial intelligence and machine learning, cloud computing and genetic algorithms – is a key factor.

"The technology has evolved – you can really make sense of all this data, and do it so much more cheaply than in the past," Rusakov observes.



Source: Opimas Analysis

Data Points

According to a report in March by Citigroup analysts (https://cdn2.hubspot.net/hubfs/179268/Citi%20WP.pdf), the total number of new data points is expected to increase by 4,300% – from 0.79ZB (zettabytes) in 2009 to 35ZB in 2020. This is information increasingly captured from online and mobile apps, digital services and platforms, sensors, satellites, social media and other technology, allowing for comprehensive monitoring of economic activity that can produce trading and risk signals.

The Citi Research report describes Eagle Alpha as an example of an alt-data product offering that has "evolved over the last five years to reflect the needs of its clients and in turn the maturing of big data usage." The report includes sections on four unstructured data-analytics categories: satellite imagery, events/newsfeed, sentiment, and do-it-yourself big data.

Some of the output is referred to as "exhaust data," or a byproduct of a company's own internal functions. Data mined and aggregated from social networks such as Twitter, which can indicate consumer sentiment, or mobile apps such as Foursquare, which can monitor foot traffic; or auto insurance data that indicate auto sales volumes, are examples of this.

Bloomberg reported May 22 (https://www.bloomberg.com/news/articles/2017-05-22/tudor-s-jones-said-to-back-ai-hedge-funds-cargometrics-numerai) that CargoMetrics Technologies, an active user of alt-data tools, received an investment from Paul Tudor Jones, founder of Tudor Investment Corp. The article described CargoMetrics as an investment firm using the likes of "satellite signals and shipping data to trade commodities, currencies and equity futures."

Expertise and Other Resources

Users and service providers are quick to point out that there are challenges and risks associated with alternative data.

While larger funds may have in-house staffs to help with identifying and sourcing new data sets, smaller firms lack those resources. Service providers like Eagle Alpha, Neudata, Quandl and System2 are springing up to meet the demand, and are snagging venture financing.

In early May, Orbital Insight, which provides analysis of satellite and drone imagery that can help investors track China's manufacturing activity or the movements of oil tankers, raised $50 million in venture capital, bringing its total funding to $78.7 million.

In April, hedge fund Coatue Management participated in a $27 million funding round for big-data and alt-data start-up Domino Data Lab.

M Science, formerly Majestic Research, is one that does not limit its activity to data acquisition. The company says its alt-data service focuses on extraction of insights – key performance indicators and revenue predictions – culled from data sets and served up in research reports.

Eagle Alpha offers a menu of services in addition to data provision, including teach-ins, insight reports and analytical tools, while Quandl positions itself as a platform provider that serves up data in the form of APIs.

"For a lot of people, their entrée into the world of alternative data will be through middle-man firms that will do a lot of the heavy lifting for them," says Brad Bailey, a research director at Celent who is coming out with a report on alt-data in June.

For funds starting to think about utilizing alternative data sets, having and finding the right skill sets on staff can be a challenge. It can involve bringing data scientists and quantitative analysts on board to work with portfolio managers and risk managers, or outsourcing this effort.

"There is a skills gap outside of quantitative firms when it comes to working with data," says Kilduff of Eagle Alpha. "The successful firms create centralized teams who have the skill sets to work with alternative data" and can function as a resource for the rest of the fund.

Risk Teamwork

At systematic firms like Data Capital Management, risk managers work alongside data scientists and quants. "Rather than coming in after the strategies and models are developed and opining about risk, I am heavily involved in the design of the system as well as what data is required and what tools should be used," CRO Kim says.

He adds that risk managers working in such an environment would be wise to have some knowledge of coding languages, such as Python or R.

"It's not just about the math and econometrics behind the model, but you need to have a pragmatic understanding of development costs versus the ability of the alternative data sets to be predictive," Kim says.

Quandl's Kamel also sees risk professionals adapting to the alt-data world: "Most risk managers come with strong statistical and data skills and may be better equipped than others to adapt to a more data-driven investment process."

In perhaps a sign of the times, Chicago-based hedge fund firm Citadel last October moved chief risk officer Alex Lurye into the new role of chief data officer. (He was succeeded as CRO by Joanna Welsh from Tudor Investment Corp.)

Accuracy and Testing

Other challenges regarding alt-data usage include cleansing, normalizing and anonymizing the data sets and ensuring their veracity.

Users point out that databases need to be back-tested, assessed for correlations or for their predictive power. Some of the middle-man firms can provide these services and even help with the analysis and extraction of investment insights.

"If you want to leverage alternative data, there has to be some data science skills, some quantitative abilities on the part of the customer," says Kamel of Quandl.

Asking the right questions up front, and then finding the right data to enhance an investment thesis, is critical. According to the Citi alt-data report, users need to keep in mind that alternative data is not a panacea for poor performance or a failing strategy. Success with it requires a well-thought-out investment objective to make the time, staffing, data-set selection process and technology commitment worthwhile.

Also of note: Working with alternative data sets requires a mindset change, a new way of thinking about company research, to assist in the identification of relevant data sets.

Zatraenu of System2 says that to identify data helpful in monitoring company performance, he might ask a company: What invoicing software do you use? Who provides your logistics? Do you own delivery trucks or have someone else provide that service?

"This is information that might help us figure out what data sets we might access" for the benefit of a client, he explains.

Citi's quantitative experts say key questions revolve around alt-data's trustworthiness and veracity, and how comfortable users are with these data sets' typically short histories. And what is the right benchmark? For data sets based on web searching or web scraping, the last is an important question.

Legal Exposure

Tabb Group analyst Valerie Bogard says firms consuming alt-data should have their legal team review its use to ensure that they are not capturing nonpublic information in any way. "That certainly is something that firms, hedge funds, are very concerned about," says Bogard, author of the November report Alternative Alpha: The Rise of Alternative Data Sets (https://research.tabbgroup.com/report/v14-062-capturing-alternative-alpha-rise-alternative-data-sets).

Speaking at the Data Disrupt Financial Services conference in New York in March, Kamel said, "Alternative data is innovative research that anyone else can collect. We believe we are on firm legal ground in providing it. But that is not to say that at some point, regulators won't have an opinion on this."

Kamel noted in an interview that the most effective way to mitigate the risk of insider trading charges is to make sure you are not the only one using that data. "If you have exclusive access to something, you increase your risk of being accused of having insider information, whereas, if you are a hedge fund buying it from a vendor selling that data to dozens of clients, they can't fault you for that."

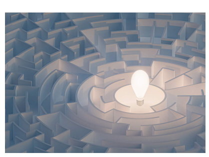
Citi Research says that several types of alt-data sources, including web scraping, geolocation and credit card data, may have legal implications, and a fund's legal advisers should be consulted.

There are also risks associated with the limited shelf life of the data. Users need to weigh those risks accordingly and decide if the effort associated with the processing and analysis of alt-data will be worthwhile.

In a Quandl blog post, Kamel advised that “rare, unique and proprietary data eventually diffuses – and becomes commonplace, easily available, edgeless data. The best analysts constantly reinvent their models to avoid the inevitable obsolescence” – and any associated risks.

Katherine Heires is a freelance business and technology journalist, founder of MediaKat llc, who often reports on risk management trends and innovation.

TRENDING



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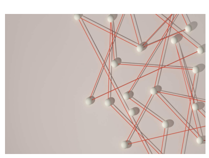

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