

Big data is a treasure worth mining

J.P.Morgan

Buy-side firms are generating an awful lot of bytes these days. While implementing expensive new technologies to respond to the demands of investors, regulators and their internal risk/compliance functions, the average hedge fund's preparation of reports, trade files, audits, government forms and so on creates an ever-growing stockpile of big data.

Warehousing that amount of data takes careful consideration. Should you keep it all in-house to safeguard from cyber-thieves? Is it better to manage data storage through third parties equipped with cloud capabilities? Either choice makes sense under the right conditions. What shouldn't be overlooked is the opportunity to leverage all this information—a sort of fact-filled treasure chest—in ways that might generate insights to benefit your investors and your firm's growth objectives.

## Embracing advanced analytics

The accumulation of massive amounts of data creates the potential to better understand how your strategies and operations are working through detailed analyses, a process that retail firms have utilized over time to manage expenses, in one example, or to protect against fraud.

*Advanced analytics*, which McKinsey defines as “the application of statistics and other mathematical tools to business data in order to assess and improve practices,”<sup>1</sup> is likely to be a non-core competency for the majority of hedge funds. Most managers are too busy identifying new sources of alpha to have time to aggregate data elements and glean even some basic insights. But as Billy Beane demonstrated in Oakland,<sup>2</sup> mining data for strategic purposes can lead to a number of completely new assumptions.

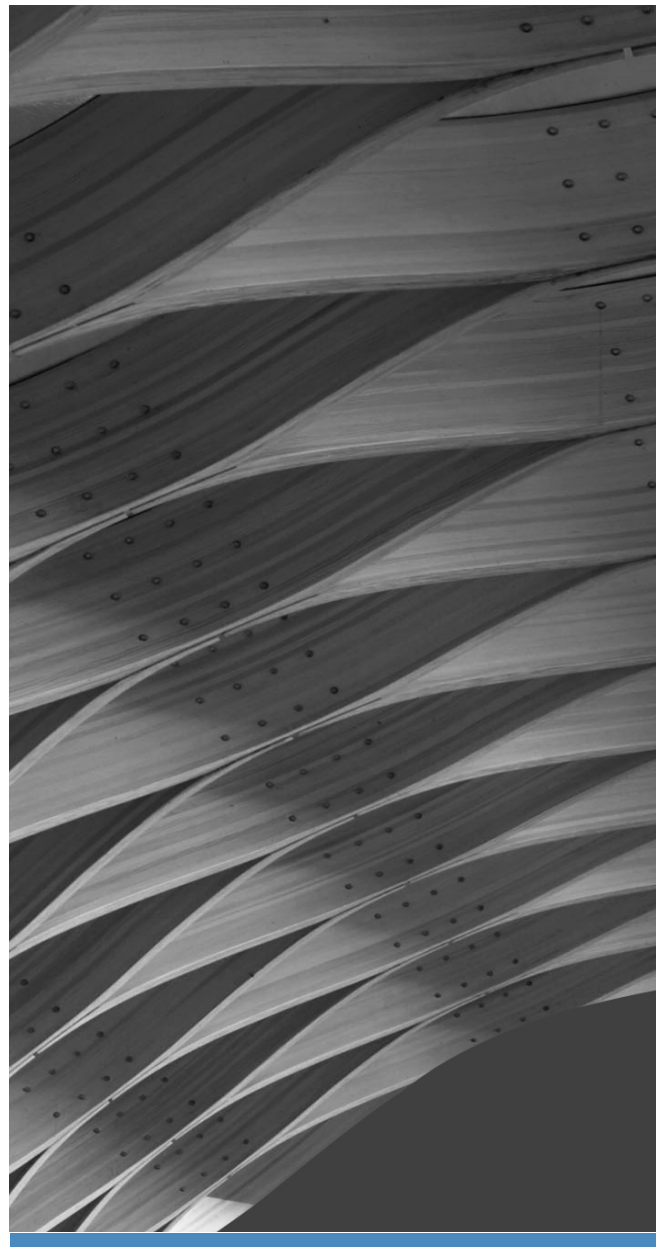
Whether it's for the front or back office, for improving investment performance or refining your accounting practices, data interpretation is a true science with real benefits. The best scenario for many hedge funds might be to assign the function to a full-time staffer who can cultivate those insights.

“Database administrators have been around forever, but data scientists are something new,” says Brenan Hefner, managing director, operations and treasury, at Cerberus. “Their ability to interpret the most practical applications of data is rare.” Cerberus is one of a few buy-side firms that has a data scientist on staff, a somewhat unusual but potentially game-changing advantage.

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<sup>1</sup> Eric Auschitzky, Markus Hammer and Agesan Rajagopaul, McKinsey & Company, “How Big Data Can Improve Manufacturing,” June, 2014, [www.mckinsey.com](http://www.mckinsey.com).

<sup>2</sup> Billy Beane is an executive with the Oakland Athletics baseball team and one of the first to incorporate data analysis in player evaluations.



## How—and why—they are doing it

‘Smart data’—patterns, interdependencies and anomalies that can help to optimize processes and/or investment opportunities—don’t exist in a natural form. The first challenge is to sift through the rubble and correctly establish standard interpretations for every element. As simple as it sounds, you and your data providers must, for example, agree on the definition of a security, so that interpreting data follows a recognizable path. If you’re using multiple service providers who typically aren’t used to providing their information in a way that allows for the flexibility of analysis, it can be a slow process.

“It does require a lot of interaction to clarify that common language,” says Hefner.

Bill Pryor, global head for J.P. Morgan Investment Information Services, agrees. “There’s a lot of complexity in linking disparate data sets into a normalized, cross-product, multi-asset class type of data model,” says Pryor. “Hedge funds are looking for a very specific, very structured approach—but with the flexibility to do anything they want with the data instantly and easily,” he adds. “The old way, the report-centric way of doing things, just doesn’t work in this world anymore.”

Hefner’s view is that “having very strong foundational definitions around your data sets allows the rules surrounding your reporting to be sort of ‘plug and play.’ Once you understand what the rule is, your tool set can attempt to satisfy those regulatory requirements. Additionally, it allows you to be more flexible in your client-facing reporting as well. The transparency to your investor becomes greater because you have cleaner and more interactive data to provide to them,” he adds.

When agreement is reached on a data integration process built on a set of common denominators, the task of analyzing the information and the opportunities become more visible.

“What we’re finding is that our firm’s financial records become sort of a ‘mini big data set,’” says Hefner. “All of your internal ledger systems and all of your external service provider systems can be conformed and reconciled. You can learn a lot about the behavior of all kinds of things—your accounting treatment, financial statement presentation, tax accounting, etc. Your operational efficiency can be greatly enhanced by seeing how these things perform,” Hefner adds.

The right data standards combined with the right analysis can lead to other advantages as well.

“With this type of analytics you know how your portfolio is behaving, you understand your concentration risk, your security selection risk, the market risk as well as the credit risk of the

portfolio at a very granular level,” says Stephanie Miller, global head of J.P. Morgan’s Fund Services business. “If you do it well you can use that very granular data in smart ways. And one smart way is to review the trends so you can see your portfolio move over time,” she says. “You might insulate yourself from potential market issues, lack of liquidity and other catastrophes.”

The real question inevitably surrounds the cost of an internal data analytics function. Hedge funds are big believers in outsourcing critical functions to specialist providers, and some are now weighing the benefits of outsourced data management and analytics.

## Mining for treasure

For hedge funds with assets in excess of \$3 billion, centralized data warehousing and advanced analytics may support growth strategies, regulatory reporting and transparency.

It can be helpful for managers to consider these questions and ideas to start:

- How much data do you have at your disposal? And how many different repositories hold your information (e.g., accounting, tax, investments, trades, regulatory, etc.)?
- Warehousing—can your data be diverted safely to a single cloud facility to more easily manage data interpretation?
- What do you hope to achieve with data mining?
- The choice to insource or outsource is either:
  - Invest in systems, personnel and skill sets to centrally manage your data (from multiple sources) internally, *or*
  - Outsource that activity to a service provider
- Among many considerations when planning to outsource, the following may be key:
  - Does your provider have the ability to manage high volumes of data?
  - How confident are you in their protocols for cyber-security?
  - Is privacy an issue?
  - Can they supply you with flexible data formats?
  - What level of oversight and comfort does outsourcing give you?
  - What is the provider’s annual investment to remain committed to evolving technologies and new solutions?

## The question of outsourcing data management

Outsourcing certainly remains vital to the hedge fund industry. According to George Evans, co-managing partner with Convergence LLC: “Of the roughly 14,000 RIAs we’re following, 6,200 of those firms are unique managers of private funds. And 4,000 of those 6,200 managers have outsourced some portion of their middle and back office.” When it comes to the question of whether to outsource, the answer may be determined by size or by economics.

“One reason outsourcing works is because you can leverage someone else’s investments, especially if they’re experts at what they do,” says Joel Press, the founder of Press Management LLC. “And the cost of building technology is very expensive.”

“The decision to outsource is a decision that gets made on a unique set of facts and circumstances at each organization,” adds Mikael Johnson, senior lead partner, alternative investments, KPMG. “Some of it is cost pressure, some of it is investor pressure and some of it is cultural to outsource or not to outsource.”

According to Evans and Convergence, managers spent more than \$20 billion on noninvestment infrastructure in 2012, and they expect that number to grow by 20% per annum.<sup>3</sup> So the idea of outsourcing data analytics also may make sense purely from a financial standpoint.

“Smaller managers pretty much outsource everything,” Johnson says, “including their technology, because it’s efficient and it becomes a variable cost of the business rather than a fixed cost. As that business and the number of fund products grow, it becomes more expensive to rely on a third party, so then they start building it in-house. And then, as they continue growing and become large,” Johnson reports, “they get back to that outsourcing model again.”

A 2013 McKinsey report stated, “In the short term, a lighter solution may be possible for some companies: outsourcing the problem to data specialists who use cloud-based software to unify enough data to attack initial analytics opportunities.”<sup>4</sup> Any firm that explores a data analytics program is certain to consider that option carefully (see *sidebar*).

## When to dive in

Is there a point in the growth cycle of a hedge fund when data analytics becomes beneficial, if not critical?

As Press points out, “Every hedge fund is different, and each firm will have different requirements, depending on what they want to accomplish.”

In general, J.P. Morgan suggests that firms with assets greater than \$3 billion will find the return on their investment in data-mining worthwhile. For those firms, having your data all in one place with an ability to conduct detailed analyses can provide a variety of substantial benefits.

“As markets move in a certain direction, so credit ratings move, liquidity changes, and you potentially can see the pitfalls,” says Miller. “Having that data at your fingertips may allow you to feel comfortable about oversight,” she adds.

“The regulatory environment and a lack of trust on the part of investors have pushed the hedge fund community into a place where they have to be much more transparent and mainstream. The more mainstream they become, the more transparent they are, and the more data they have to give out,” Miller says.

And today, data creates transparency. Put another way from someone who knows, Cerberus executive Hefner says, “The use of big data and the proper handling of it enhance our ability to remain flexible in what is a constantly changing regulatory environment.”

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<sup>3</sup> Convergence LLC, <http://convergencecellc.com>.

<sup>4</sup> Stefan Biesdorf, David Court and Paul Willmott, McKinsey & Company, “Big Data: What’s Your Plan,” March 2013, [www.mckinsey.com](http://www.mckinsey.com).

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