



Building a quantamental investing team

Big data will be increasingly important for asset managers, but many organizations are unsure how to proceed. This three-step process can help.

Correction: An earlier version of this article failed to properly cite “The quantamental investing buzz,” by Quantavista founder Michael Ho, as a source. We regret the error and apologize to Mr. Ho.

The term “quantamental” doesn’t exactly trip off the tongue, but the concept is poised to take the asset management industry by storm. The term refers to investments based on both quantitative (computer-driven) and fundamental (human-driven) research.

It’s the idea behind BlackRock’s decision in March 2017 to shift \$30 billion in assets (11% of active equity funds) to strategies that rely more on algorithms and models rather than human intuition to pick stocks.¹ Indeed, in a difficult environment—marked by fee compression as “robo advisers” infiltrate passive investing and active managers struggle to beat index performance—quantamental investing is an intriguing prospect.

However, mixing fundamental and quantitative investing is easier said than done, as the two approaches invest in very different ways. Fundamental portfolio managers (PMs), as the name implies, seek value through a deep understanding of the companies in which they invest. They generally hold fewer positions for longer periods of time. By contrast, quantitative managers know the stats. They try to systematically extract smaller amounts of above-market returns from many more stocks.

Quantamental investors, meanwhile, attempt to integrate the best of both worlds. For example, most asset managers aggregate and analyze data to support their operations at a basic level;

quantamental investing requires hedge funds to weave analytics and other tools into decision making. Today, almost all major banks, hedge funds, insurance firms, exchanges, and credit card companies are in full hiring mode for data scientists, quantitative strategists, quantitative researchers, chief quantitative officers, and chief analytics officers. Meanwhile, traditional asset management firms are slightly behind the curve in developing a robust analytics strategy but have a steadily growing appetite. Companies such as Bridgewater and Goldman Sachs are testing the waters of quantamental investment strategies, WorldQuant is using artificial intelligence (AI) for small-scale trading, and Sentient Technologies conducts all its trading using AI.² But the majority of the industry has yet to jump on board. Why?

The organizational aspects of introducing the approach can be daunting. These include large up-front costs, scarce talent, a lack of definitional clarity around quantamental processes, and the worry that traditional analysts (professionals steeped in years of experience with fundamental investing) will view the new system as a risk, not a useful tool.³

In our experience, a three-step process can help asset managers smooth the shift to a greater use of quantamental investing. First, firm leadership must ensure their organizational structure aligns with a measured approach to their data strategy. They then must hire an effective head of quantamental investing strategies to lead the effort while adjusting their organizational structure to make way for new personnel with new skills. Last, they must invest in change management to bridge the divide between traditional approaches and an even greater reliance on analytics.

¹ Landon Thomas Jr., “At BlackRock, machines are rising over managers to pick stocks,” *New York Times*, March 28, 2017, nytimes.com.

² Adam Satariano, “Silicon Valley hedge fund takes on Wall Street with AI trader,” *Bloomberg*, February 6, 2017, bloomberg.com.

³ Michael Ho, “The quantamental investing buzz,” *Quantavista*, April 4, 2017, quantavista.com.

Step 1: Take a measured approach

Before anything else, a fund's senior managers must have a clear vision for how their data strategy can add value. As part of that consideration, the C-suite must clearly define how the data and analytics team fits into its organization. Many companies tend to fall into one of two traps: going too slow or too fast. We recommend a more measured approach. These three scenarios are described below.

The conservative approach

To appease the cautious nature of most asset managers, many funds take an overly conservative, risk-averse approach that involves dipping a toe into quantamental investing through the efforts of a single PM. Due to a lack of leadership buy-in, a lack of budget, and a lack of examples to draw on—or all three—this PM often hires a junior data scientist, often a newly minted PhD with limited experience in finance. The PM and data scientist embark on a trial-and-error, “fail fast” approach, harnessing alternative data sources to test investment theses. However, problems arise when the approach doesn't make enough of a dent in the portfolio, thus the strategy never gains traction or institutional visibility and tends to peter out. When a company manages billions of dollars in assets, small wins won't be

enough to demonstrate viability throughout an entire organization.

Consider the case of a PM we know who received permission to hire a data scientist as a test balloon; he hired a qualified PhD with a few years' experience. Despite some successes, the PM and data scientist are struggling to demonstrate that small wins can be scaled. Furthermore, the data work itself is downstream data acquisition, tagging, and cleaning, which is not particularly inspiring to a new employee. Meanwhile, the company's senior management remains lukewarm on the idea, which has yet to spread beyond its inception point in the organization.

The all-in approach

A few funds have jumped headlong into quantamental investing, hiring an entire team of data scientists, machine learning experts, quant analysts, and fundamental analysts who all report to a single director of research. This team serves as translator between the data team, which tags and cleans data to identify signals, and the fundamental PM team, which translates these insights into action.

This approach has its shortfalls. For one, hiring an entire team at once is expensive. And given the lack of definition, funds tend to want to spread the reporting out between the commercial and technology aspects of the business. That approach can create blurred reporting lines, ownership, and

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accountability—and it can lead to a collapse of the strategy because it’s unclear who is driving it.

The measured, gradual-growth approach

It’s early in the industry’s overall journey into quantamental, but the approach of one prominent, long–short equity hedge fund appears to be the best path forward—and we are beginning to see others follow its lead. This fund is essentially taking the best of both options above and injecting it with a healthy dose of information sharing and executive buy-in. The fund recently hired a head of quantamental research with a clear reporting line to both the director of research (who has a direct line to the chief investment officer) and the fundamental PM team. This access enables him to work directly with leadership while pulling resources from the firm’s quant research and technology teams (see figure).

To ensure that he has credibility with the technology and research colleagues, the head of quantamental research has strong quantitative skills and experience in coding as well as structuring, cleaning, and utilizing large datasets to extract meaningful signals. He also has credibility with the fundamental PM team thanks to his investment acumen.

Just as important, the leadership is giving this new head of quantamental research the room to build his own road map to succeed. He has a mandate from the top, as his reporting line to the C-suite is very short. The leadership has approved his development of a road map that will take 18 to 24 months to fully mature and consists of a series of milestones that will unlock a new phase of gradually building out the team and the strategy. (See sidebar, “Creative approaches to attracting the right talent.”)

Figure: **Suggested reporting structure for a head of quantamental research**



Creative approaches to attracting the right talent

The large paychecks that have traditionally been the primary lure of top talent to hedge funds are not sufficient to impress the tech crowd. Indeed, computer science recruits fresh out of the nation's top universities can command hedge fund salaries of \$250,000 or more. However, many asset managers are struggling to adapt their cultures to allow for the innovation and entrepreneurship opportunities needed to ensure these recruits can thrive.

Some firms, such as WorldQuant, are crowdsourcing quant code through competitions, and offering consultant fees to programmers who contribute meaningful signals. Quantopian, for example, competes for talent by offering quants 10% of the net profits on their algorithms.¹

Most managers will seek to build their full-time team rather than crowdsource the signals. Still, hedge funds will need to be mindful of their appeal to a new type of employee and how their traditional culture, workplace, and pay structures may need to evolve.

¹ *The Economist*, "A new sort of hedge fund relies on crowd-sourcing," May 13, 2017, economist.com.

Step 2: Set the leader up for success

The best leaders of quantamental investing functions have a unique combination of skills. In fact, there is no "perfect" person in this space. He or she may come from a variety of industries and a variety of technical backgrounds; perhaps he or she is a quantitative PM interested in finding data to improve his or her strategies, or perhaps he or she is the head of machine learning with a passion for investing.

To start, this person needs to have a high degree of credibility with the investment team. His or her communication style must be clear, crisp, and transparent. Crucially, this person must be able to bridge the cultural divide between fundamental and quantitative mind-sets. As such, this person must possess the technical skills necessary to understand all aspects of fundamental and quantitative

approaches. He or she must be able to go toe-to-toe with the investment team, while also being a credible technologist.

Of course, this person should have experience in management—but as this team will be small from the outset, this person doesn't necessarily need to have led a 1,000-person team. He or she is going to build this team person by person, so this individual needs to be a visionary and have foresight.⁴

One mistake to avoid is hiring someone who is currently doing the most cutting-edge AI, machine learning, or networking work and bringing him or her over to investing. In our experience, such executives tend to fixate on the technology—and not the investment strategies behind it. By contrast, asset managers must understand what investing is—philosophically—and have their own, reasoned perspective on investing.

⁴ For more about leadership styles, see Karen West, Elliott Stixrud, and Brian Reger, "Assessment: What's your leadership style?" *Harvard Business Review*, June 25, 2015, hbr.org.

Step 3: Foster a culture change

One leader, who had run his successful hedge fund since the 1980s, embarked on a journey to integrate machine learning into his firm's stock-picking methods. The fund had essentially been minting money for decades, but a dip in returns in the past few years was not enough to convince the PMs that such a dramatic shift was needed. They pushed back hard. And despite the leader's pioneering spirit, he dropped the project—all because he had not laid the groundwork for the culture change necessary to make the pivot.

Fundamental PMs tend to resist a shift toward more quantitative methods, as they are unclear on how data science will alter their investment style, philosophy, and way of thinking. And no wonder. Fundamental PMs study trends; they are researchers. They are practical and pragmatic, usually making investment decisions only after much discourse, debate, and qualitative exploration and dialogue. And like most groups, they are inherently slow to change; when faced with something as new as quantamental investing, they tend to be cautious. That is why the organization, as a whole, must prioritize culture change to ensure the quantamental investing team can take hold and begin to make a real impact.

Of course, culture change is not easy for any organization. It's not a destination but a journey that must be led by the C-suite and embedded throughout the company.⁵ In the case of asset managers, many will need to first come to terms with the fact that their culture needs to change at all.

⁵ For more, see Larry Senn, "The four principles of culture change," Heidrick & Struggles, August 18, 2015, [heidrick.com](#).

The new leader of quantamental investing will be a crucial figure in pushing this change throughout the company, which is why it's crucial that he or she be a good listener and "translator." To bridge any turf issues, he or she will need to be acutely aware of the leadership shadow the senior team casts, as attitudes at the senior leadership level between teams are often reflected at other levels of the organization.⁶



As in any diverse portfolio, one strategy is not enough, and quantamental capabilities can be used to enhance fundamental analysis as a route toward full artificial intelligence integration. Asset managers need to get up to speed and hire the right talent to keep up with where the industry is headed. Those that are not yet exploring this avenue risk being left behind—and finding themselves in crisis as a result. ■

⁶ For more, see Larry Senn and Jim Hart, "What leadership shadow do you cast?" Heidrick & Struggles, June 23, 2015, [heidrick.com](#).

About the author

Deepali Vyas (dvyas@heidrick.com) is a principal in Heidrick & Struggles' New York office; she leads the Global Markets and Hedge Funds sectors in the Americas.

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Leaders of Heidrick & Struggles' Financial Services Practice

David Boehmer

Global Practice Managing Partner

dboehmer@heidrick.com

Jenni Hibbert

Regional Managing Partner, Europe and Africa

jhibbert@heidrick.com

Frazer Wilson

Regional Managing Partner, Asia Pacific and Middle East

fwilson@heidrick.com

Leaders of Investment Management Segment

Americas

Lisa Baird

Investment Management Segment Leader

lbaird@heidrick.com

Graham Beatty

Sector Leader, Real Estate

gbeatty@heidrick.com

Jonathan Goldstein

Sector Leader, Private Equity

jgoldstein@heidrick.com

Todd Taylor

Sector Leader, Wealth Management

ttaylor@heidrick.com

Deepali Vyas

Sector Leader, Hedge Funds

dvyas@heidrick.com

Europe and Africa

Andy Smith

Investment Management Segment Leader

Sector Leader, Asset

Management

asmith@heidrick.com

Chantal Clavier

Sector Leader, Real Estate

cclavier@heidrick.com

Marcus De Luca

Sector Leader, Infrastructure Investment

mdeluca@heidrick.com

David Harms

Sector Leader, Wealth Management

dharms@heidrick.com

John Hindley

Sector Leader, Hedge Funds

jhindley@heidrick.com

Tom Thackeray

Sector Leader, Private Equity

tthackeray@heidrick.com

Asia Pacific and Middle East

Steven McCrindle

Investment Management Segment Leader

Sector Leader, Asset

Management, Hedge Funds

smccrindle@heidrick.com

Michael Di Cicco

Sector Leader, Private Equity,

Infrastructure Investment,

Real Estate

mdicicco@heidrick.com

Oliver Read

Sector Leader, Wealth Management

oread@heidrick.com

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