

Private Equity Managers Take First Quant Steps

By Tom Stabile July 18, 2018

Private equity managers are edging into the use of quantitative techniques, artificial intelligence, and machine learning in the deals origination process. But pioneers have already built extensive internal systems to track and evaluate hundreds of data points in search of deals, such as **TerraCotta Group**, which uses quantitative tools to identify targets for its real estate direct lending business.

Most private equity managers are in the early days of the trend, but a wide swath of the market is “thinking about it,” says John Haggerty, director of private market investments at Meketa Investment Group, an investment consultant. Only one private equity manager out of 200 that Meketa follows is actively using quantitative techniques in its deals sourcing process – at least openly, he says.

“Maybe there are others who are not public with what they’re doing because they don’t want to scare investors,” he says.

The interest level among private equity managers is high, according to a KPMG report that cites a “growing number” scouting for “an edge in terms of making portfolio acquisition decisions” and other functions. But they have been slow to adopt new technology, with only 21% of managers in KPMG’s survey reporting they have built robotic process automation systems, 18% that have used big data techniques, and 6% that added machine learning or cognitive computing tools.

“Private equity firms for the most part have been slow to the party in terms of automation and innovative technology, with most still just familiarizing themselves with digital innovation,” the report states.

Data tools are a great fit for the private sector, where information is imperfect and better analysis can yield smarter decisions, says **Tingting Zhang**, CEO and founder at TerraCotta.

“A data-driven approach gives you a pretty clear reality check,” she says. “You can run the last three years of data or finish underwriting on 200 variables in two hours to make sure your analysis is in line. That’s far more than a human can do.”

TerraCotta continually aims to improve the speed of its systems to present better data to portfolio managers when they are analyzing target markets and selecting loans, Zhang says. “It’s a huge

undertaking, and you need really deep industry experience,” she says. “But the common bias against using data is that ‘with 30 years of experience and billions of dollars in loans, I don’t need it.’ But can you do a 300 data point regression on each of the transactions?”

Still, TerraCotta doesn’t market itself as a “quant” firm, she says. “Big data is the direction the industry is going, but we’re investors with data sophistication rather than data scientists telling investors what to do,” she adds.

For now, it’s too early for most private equity managers to claim such expertise, Haggerty says, noting that several Meketa colleagues echoed this view. So far, most examples involve managers using quantitative techniques and advanced data tools at the start of a deals sourcing process, to reduce time and increase efficiency when narrowing down a high volume of potential targets, he says.

One middle market buyout fund has begun using such tools to vet more than 2.2 million companies, scoring them in its system across several large investment themes, Haggerty says. That allows it to go from pursuing three investment platform themes per year, as in the past, to as many as eight categories today, he says.

Meketa views such efforts favorably if managers are supplementing existing resources and becoming more efficient. “We don’t want to see them reduce the workforce, but rather improve accuracy and the volume of options they review,” Haggerty says.

The consultant hasn’t yet come across private fund managers replacing human processes with automated systems. “We don’t have enough information to say whether we’d be comfortable or not with this technology if it supplants [human staff],” he says.

Private equity investment decisions often require subjective analysis that today’s artificial intelligence can’t match, according to a research paper written last month by Howard Marks, co-chairman at Oaktree Capital Management.

“Computers, artificial intelligence and big data will help investors know more and make better quantitative decisions,” he wrote. “But until computers have creativity, taste, discernment, and judgment, I think there’ll be a role for investors with alpha.”

Still, computers and systems have the ability to process far more information much more quickly than humans can, Zhang says. “When you process two or three variables, the human mind is good at making connections,” she says. “But [not] when it’s dozens or hundreds of variables, and you want to decide the proper weight or impact... or run a regression.”

TerraCotta constantly learns from its models and adjusts them with changing insights and data, and over the past decade it has continually refined its algorithms and data quality, she adds. It has built stockpiles of data points across target markets and submarkets in southern and western U.S. cities for commercial mortgage lease rates, square footage, loan defaults, population density, income levels, educational attainment, construction activity, employment rates, tourism levels, migration trends, and more. It then weaves that data into theories and trends to predict cycles and investment opportunities, she says.

And new academic research has opened opportunities for the “quantification of ‘non-quantifiable’ variables,” such as the quality of a local government and business-friendly tendencies, Zhang says.

Investors and consultants will want to know the inner workings of such systems and processes, Haggerty says. And questions around how managers are using such tools – and whether they are using them wisely, over-relying on them, or truly adding value – may become more common in the next five years, he says. “We would want to make sure you’re aware of what the systems don’t show you,” he adds. “You don’t want a problem to be up front in the screening stage.”