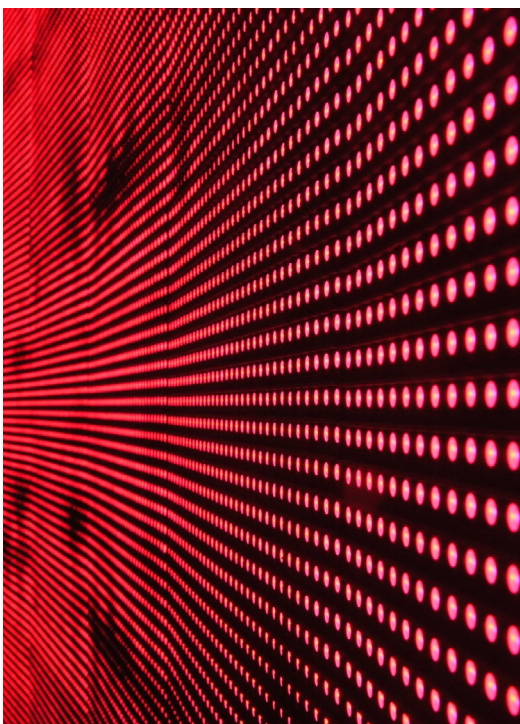# DUNSTAN THOMAS

# Exploring the power of AI to provide more accurate ESG ratings

Adrian Boulding and Dr Daniel Philps look at how artificial intelligence will make it easier for investors to understand the ESG performance of their investee companies.

ESG ratings agencies have moved from providing blacklists of stocks to avoid and have become new systems which rely more on the power of artificial intelligence (AI), supported by rich data sets which are analysed by data scientists' algorithms. This technology is vital to step beyond blunt ESG indexing approach and move in the direction of a much more dynamic, tailorable approach which aligns pension scheme investments with investors' primary ESG concerns.

## Climate risk reporting remains open to abuse

Right now, there are no agreed international accounting standards for reporting on ESG progress, although both the International Accounting Standard Board and International Financial Reporting Standards Foundation are working on these. In the meantime, there is the UN's Principle of Responsible Investing (PRI) and membership bodies like the Institutional Investors Group on Climate Change (IIGCC) with its Net Zero Investment Framework and Paris Aligned Investment Initiative (PAII).

However, all these schemes are voluntary and rely heavily on self-reporting. The focus of most of them is on measuring reduction of the impact on the environment. It seems the societal and governance elements of ESG reporting may be lagging behind. But perhaps not for long...

## Customisable ESG ratings needed

It quickly becomes clear that there is no way of capturing all factors that make up ESG in one single rating scale, or indeed fund structure. It is likely that within five years we will see between five and ten main ESG flavour combinations - highlighting differing concerns and focus areas that investors and ultimately consumers are most worried about. "How is that going to be achievable in such a short timeframe?" I hear you ask. The answer lies in the power of AI.

dunstan thomas

## Data race

The subjectivity problem traditional ESG rating agencies have, can only be solved by extensively using data and algorithms. Those algorithms will have to be highly capable, interpretable, and causal. That means looking to artificial intelligence. Rothko is building one such AI-led ESG rating system called GaiaLens which goes live later this year.

For example, one relevant stream of data might be associated with the make-up and track record of boards of directors. Is there any duality at work where the chief executive (CEO) and the chairman is one in the same person? It can also check the record of the CEO for any history of poor behaviour or governance. You ought to explore the diversity of the board for example. This is important as balanced boards build better businesses.

As the need for objective ESG risk analysis and ratings continues to increase, this is fuelling a scramble to gather and gain access to larger data sets. FactSet, Moody's, Standard & Poor's and Bloomberg have all been a part of this scramble in the last couple of years, with stakes being taken in groups such as TruValue Labs, Vigeo Eiris and RobecoSAM's SAM system. It is a gold rush for data and technology at scale.

## Unstructured data analysis

However, increasingly investment managers with access to the best technology, like Rothko, are accessing a plethora of unstructured data which feeds ESG risk models. Gaia Lens takes in both structured and a 'firehose' of unstructured data streams from many sources.

So, algorithms are crawling the internet for news reports on events which involve the companies being ESG-measured, especially where these reports reveal ESG-linked information. The more authoritative a news report's source, the more heavily-weighted it should be by the algorithm.

Companies like FactSet, which invested in True Value Labs in 2020, engage in text mining techniques, searching for keywords across millions of published articles to find out how many of these reports are relevant to the company they are searching for. So, one of these keyword groups might be 'cyber breach', another 'board diversity', a third 'net-zero target'. Typically, these groups then use algorithms, trained by Facebook or Google, to determine whether the context in which these events were reported was positive or negative, for or against the company being searched on.

Once a material event has been identified and its sentiment determined, an algorithm can find how that specific event has been reported by other sources. If a number of high-value sources such as the Financial Times and the Wall Street Journal report it negatively then this increases the negative rating against the searched company.

One such example is Norilsk Nickel's arctic diesel spill in 2020, which saw news flow move a poor environmental rating to an even worse one. Big data providers offer managers the alluring possibility of accessing this knowledge in order to generate real-time ESG assessments. However, the technical challenge of achieving this is not for the faint-hearted.

## Big data game

Some of these big data players are going further still to gather what thought leaders across social media are reporting about a topic or a company. So, on the environment, Sir David Attenborough or Dr Hoesung Lee, chair of the IPCC, are key thought leaders. It is possible to build datasets associating the comments of short listed thought leaders with specific geographies, sectors, events, or even companies.

If their comments are judged to be negative by the algos that could ultimately affect the ESG score of specific companies. You can crunch together all these sentiment scores from different data sources and create an average sentiment which is increasingly rich as new information is harvested and interpreted.

You can bring together both structured and unstructured data into its ESG risk system. So, everything from environmental and financial reporting to social media mentions, to background checks on the board of directors will be analysed, weighted, and scored in the investment manager's model to be formally launched later this year.

## Broader evaluation

Company reporting of E,S and G criteria is getting better and more common. However, in the same way that financial accounts may sometimes flatter a company, so can self-reported ESG scores.

Most systematic ESG approaches focus on interpreting the data they see, which can be inaccurate and have many gaps. Even if they are from independent ratings agencies, they are public information, and all investors are seeing and hearing the same story. However, next generation approaches are finding smarter ways to validate the information they see and provide AI-driven 'educated guesses' to fill in additional colour and detail.

This is where the active investment manager comes to the fore. They generate investment alpha for clients by finding companies that are progressing with ESG before their efforts are spotted and acknowledged by markets. This is precisely why we don't want a single universal ESG measure or index - universal disclosure and scoring makes for very flat markets.

## Bespoke ESG ratings

The challenge remains that ESG has almost as many flavours as there are investors. However, technology may be able to solve this problem to some extent.

We constantly hear about investors resenting having to defer to rating agencies' ESG philosophies, rather than using their own interpretations. The whole notion that ratings are a one size fits all, similar to the credit ratings business, could not be more of a nonsense.

Many other groups now agree. In the case of the Sustainability Accounting standards Board (SASB), ESG risk is mainly defined by the materiality of different ESG risks for different industries. For example, 'supply chain audit standards' is far more material to fashion retail than to energy companies and therefore investment strategists must 'up-weight' this criterion for fashion retail.

The problem is exemplified by the ratings on Toyota versus Tesla. Tesla backs battery technology that requires lithium mining in socially-challenged parts of the world. Whereas Toyota manufactures hybrid and petroleum powered vehicles but is exploring hydrogen technologies that will probably require a global expansion of nuclear generation to scale. Not surprisingly, rating agencies struggle with these questions and the many contradictions that exist in the investment universe.

The future of ESG is almost certainly not an entirely human one. AI, driven by rich and expanding data sets is now a reality. These systems can already shape investment strategies which more precisely meet institutional investors' declared ESG targets. They will also be able to monitor and advise on adjusting investments faster and more objectively going forward.

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