

How Artificial Intelligence is Reshaping ESG Ratings

Some of the biggest global investors including Japan's Government Pension Investment Fund are using computer algorithms to gain deeper insights into the ESG effectiveness of companies they invest in.

- Asset managers are using AI-based ESG ratings to make investment decisions
- Advantages of using AI include daily updates and deeper insights including sentiment analysis
- RepRisk, Truvalue Labs and Arabesque S-Ray are three of the leaders in AI-based ratings

Asset managers are increasingly turning to Artificial Intelligence (AI)-based ESG ratings to assess risks and make investment decisions highlighting how technology is being harnessed to gain an edge.

Traditionally, ESG-focused institutions have relied on analysts for data identification, and assessment. However, in a bid to effectively comb through mountains of data that can be essential for ESG investing, evaluators are now deploying computer algorithms that can automate complex tasks and analyse information at fast speeds.

And as harnessing AI capabilities in ESG investing becomes vital for competitiveness, some of the biggest global players are taking note.

Tokyo-headquartered Government Pension Investment Fund (GPIF), the world's largest pension fund, is conducting analyses based on data from AI-powered ESG rating agencies such as Switzerland-based RepRisk, FactSet's Truvalue Labs and Arabesque S-Ray, a German subsidiary of the Arabesque Group.

TRADITIONAL VS. AI-POWERED ESG EVALUATORS

ESG ratings agencies that use AI to make their evaluations diverge from traditional evaluators in terms of who performs the assessment, the frequency of updates, and the main sources of information.

	Traditional ESG Rating Agencies	ESG Evaluation Organization Utilizing AI Technology
Assessor of the evaluation	Analyst plays a central role	Certain algorithmic models and analyst assessments
Update frequency	Typically semiannually, annually (Additional updates should occur in the event of a critical event)	Typically, daily
Primary Information Sources	Disclosure information, questionnaire surveys, News, etc.	Disclosure information, news, etc. (In some cases, disclosed information is not included)

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Comparison between traditional ESG rating agencies and ESG rating agencies that utilize AI technology

HOW ARTIFICIAL INTELLIGENCE IS RESHAPING ESG RATINGS

First, the involvement of analysts when using AI technology to evaluate ESG is relatively limited, making it vital to have reliable, accurate and appropriate data.

Second, the frequency of updates between the two methods differs – a traditional ESG ratings agency will typically refresh its ratings annually or semi-annually, with additional updates taking place after a critical event. An ESG ratings agency that utilises AI technology generally refreshes its ratings every day, thereby reducing inaccuracies.

Finally, while traditional ESG rating agencies mainly use company ESG related disclosures, as their information sources, agencies that employ AI use a lot of ESG-related media news in addition to corporate disclosures.

Sentiment analysis algorithms enable computers to gauge the tone of a conversation. AI employs natural language processing (NLP) technology to identify parts of public news that refer to ESG and analyses language to decipher levels of commitment to these practices. Using these approaches, the ratings agencies can deliver an in-depth overview of a company's stance on ESG.

VARIED METRICS AND METHODOLOGIES AMONG ESG RATING AGENCIES

The three agencies GPIF uses – RepRisk, Truvalue Labs and Arabesque S-Ray – employ different methods for ESG evaluation. For instance, RepRisk uses machine learning and analyst-analysis to conduct its evaluations (Truvalue Labs and Arabesque S-Ray do not rely on analysts). RepRisk and Truvalue Labs use media news as information sources and do not consider corporate disclosures, while Arabesque S-Ray also uses corporate disclosures.

RepRisk – combines AI and machine learning with analyst insights to evaluate public information and provide ESG-related risk metrics. It has two benchmarks – the RepRisk Index (RRI) captures and quantifies a company's ESG-related reputational risk exposure, and the RepRisk Rating (RRR), which fuses RRI with ESG risk in the relevant country and sector.

Truvalue Labs – The San Francisco-based company uses NLP to identify ESG-related issues. It provides four ESG ratings – the Insight Score, which measures a company's long-term ESG track record; the Pulse Score, measuring short-term performance changes; the Momentum Score, which measures trends in the company's ESG behaviour; and the Volume Score, a gauge of the amount of information available on a company over a 12 month period.

Arabesque S-Ray – Started by the Arabesque Group in 2018, it focuses on advisory and data solutions combining big data and ESG metrics to assess the performance and sustainability of companies. The agency provides two ESG ratings – the Global Compact Score, which measures reputational risk, and the ESG score, which measures a company's long-term financial performance.

OPPORTUNITIES AND CHALLENGES FOR AI

The use of AI in ESG ratings promises to reflect a raft of information about a company's sustainability practices very quickly.

AI may also reduce the risk of greenwashing – the practice of making a company appear more ESG-friendly than it really is. For example, AI can help the agency exclude company statements that mention sustainability practices, which are not material to the business and are unlikely to matter to investors.

On the other hand, while AI can sift through data, identify patterns, and reduce human bias, there are several holes that it struggles to plug. In particular, it's hard to substitute an analyst speaking directly to a company or market participants and then making a nuanced assessment.

In short, while AI-based ESG ratings are unlikely to completely replace analysts in the near future, they are a useful tool to complement traditional assessments and help to address biases while improving understanding of evaluation results.

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