pi ESG CLUB

Whether it is detecting cancer, packing our shopping or dealing with complaints, artificial intelligence is having a greater influence over our lives. But it is not all positive as there are fears it could increase inequality and our carbon footprint.
This month's ESG Club looks at how these algorithms could be used and why investors should be wary.

FEBRUARY 2024

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ASSET MANAGERS UNDER FIRE FOR NOT VOTING ON ESG RESOLUTIONS

Managers hit back on accusations of dire voting performance. *Andrew Holt* reports.

When it comes to environmental, social and governance (ESG) commitments, asset managers occasionally find themselves in the firing line.

But the latest criticism from campaigner Share Action accuses larger firms of turning their back on their ESG commitments following their worst voting performance yet.

Research from the responsible investment pressure group found that in 2023 only 3% of assessed resolutions were passed, down from 21% in 2021.

Of the environmental resolutions assessed, just 3% passed last year compared to 32% in 2021. On social resolutions, a drop in majority support from 15% to 4% over the period was revealed.

Furthermore, many asset managers are risking accusations of greenwashing by not supporting crucial climate resolutions despite having net-zero pledges, Share Action said.

The group noted that asset managers who have signed up to Climate Action 100+ with a mandate to protect the environment "are at the same time voting down resolutions at AGMs that would improve environmental protections in what can only be described as greenwashing".

Claudia Gray, head of financial sector research at Share Action, said this is the worst result she has seen from asset managers in recent years. "This lack of support for key shareholder resolutions in 2023 is deeply concerning," she added.

"It is even more worrying that some of the world's largest asset managers are failing to support climate resolutions despite their public commitments to reduce carbon emissions," Gray said.

For asset managers to have any credibility here "they need to vote in favour of more social and environmental resolutions", she said, but added that the opposite is happening.

Ranking 69 of the world's largest asset managers, Share Action's research assessed how they voted at AGMs during 2023, and for the first time makes a comparison with the policies and public statements of the asset managers.

Geographic differences

The research also uncovered a distinction between the way European and North American asset managers voted in 2023.

Asset managers in European have a much better record of voting for resolutions that are designed to protect the environment and human/employee rights, than their US counterparts.

Share Action revealed the trend toward more responsible voting practices among European asset managers continues unabated.

On average, they supported 88% of shareholder proposals on environmental and social issues, signalling a positive trajectory across European countries.

In the UK, support hovers at around 64% on average, while US asset managers typically only voted for 25%.

The research highlights that Blackrock, Fidelity, Vanguard and State Street, known as the 'big four' asset managers as they are the largest in the world, "have a massive influence on the companies they invest in".

Yet average support amongst the big four for environmental resolutions fell from 39% to 14% between 2021 and 2023, according to Share Action.

Support for social resolutions went down to 13% from 29%.

A resolution at Amazon calling for an assessment of its workers' union rights would have passed had the big four voted in favour, along with 68 other key resolutions, said the responsible investment pressure group.

Share Action also suggested that dozens of resolutions would have passed if these managers had voted for them, including at Amazon, Apple, Coca-Cola, chemical giant Dow, Pfizer and Lockheed Martin.

Long-term return

Share Action said the world's largest manager, Blackrock, supported just 8% of resolutions.

But in response, a spokesperson for Blackrock told *portfolio institutional*: "As a minority shareholder on behalf of our clients, our role is to better understand how company leadership is managing risks and capitalising on opportunities to deliver long-term financial returns. We analyse each resolution on a case-by-case basis and vote, where authorised, to advance our clients' long-term financial interests."

The spokesperson also gave context to why the asset manager had voted as it did.

"In 2023, because so many proposals were over-reaching, lacking economic merit, or simply redundant, they were unlikely to help promote long-term shareholder value and received less support from shareholders, including Blackrock, than in years past."

A spokesperson for State Street also explained its voting approach to *portfolio institutional*: "At State Street Global Advisors, we have maintained a consistent voting record on environmental, social and governance shareholder proposals.

"We support proposals we think make sense for a company while not being overly prescriptive or dictating how management runs a company. This approach is the best way to build long-term shareholder value for our investors."

ESG INTERVIEW – HONOR FELL

"Positioning the fund to prosper in a future net-zero economy is the key pillar that we have to achieve."

The sustainable investment officer at the Cambridge University Endowment Fund tells *Andrew Holt* about the issues she has with some asset managers, investing for the next 800 years and being comfortable about being uncomfortable.

How important are sustainable investing and ESG to the Cambridge University Endowment Fund?

We are focused on sustainability. The purpose of the endowment is to deliver world-class sustainable investment performance. It comes down to our purpose as an organisation, which is to deliver income in a way that is sustainable.

We specifically talk about a sustainable economy as one that is well governed from an environmental and social perspective for the long term.

We are focused on sustainability, rather than just the ESG label. It is our purpose and mission, but it is also important for the university and our wider stakeholders.

So sustainable investment is baked into everything you do?

It is central to everything we do. We do not have a sustainability or impact investment bucket. We have a sustainable investment strategy across all asset classes and all of our activities. It is fully integrated into all of our investments.

What has the endowment invested in?

The fund has a dedicated team of 18 people and we invest across asset classes globally, but through asset managers. Everything we do is through third-party managers. We have no direct investments.

Sustainability needs to be part of the interaction when we select a new [asset manager] partner, to make sure they are aligned with our sustainability goals, in particular, climate change. We then monitor how they put those sustainable policies into practice. We are up front with managers about this.

Analysis has highlighted a disconnect between asset owners and asset managers when it comes to sustainability, with asset managers being somewhat off the pace on the issue. Is that your experience?

We rate all our mangers on sustainability, in terms of good governance, their policies and processes, what they do in the portfolio and implementation.

In our portfolio we have asset managers who are doing a fantastic job and asset managers where we have identified areas for improvement. We make sure every time we make an investment we see evidence among the senior management investment team that they are aligned with our vision around sustainability.

European managers are more forward thinking and advanced in terms of sustainable investment and decarbonisation. There is more work to do with US-based managers. It is though not a hard and fast rule.

We typically work with small, boutique-type managers as well.

One thing we have done, which is quite unique, is to create an executive education course, in partnership with The Cambridge Institute for Sustainability Leadership, which we encourage our partners to attend.

What are your asset managers failing on?

A common issue is that sometimes they do not apply the sustainability policy consistently. We may see them being great in some areas or with some companies, but this is not applied elsewhere.

We hold a lot of data on high emitters and ask an asset manager why they are holding such a company. The asset manager may reply that they have different data to us. We then dig into it together and the asset manager engages with the company on this specific issue.

The other failing is not fully explaining to us what they do and how they approach it.

What is your net-zero strategy?

Climate change within the sustainability investment policy is key. Positioning the fund to prosper in a future net-zero economy is the key pillar that we have to achieve. The headline is an ambition for the fund to be net zero of greenhouse gas emissions by 2038.

One of our commitments is reducing fossil fuels as soon as possible, or by 2030, and to look for investments in renewable energy to build a low-carbon economy. We have found some interesting investment opportunities there.

We have three implementation pillars, which are investing for net zero, engaging to drive the transition and reporting back with transparency and accountability to our stakeholders.

How do you keep all of your stakeholders happy with your sustainable investment strategy and net-zero ambitions?

Our team came into place after 2020 and it was at that point we put the current strategy in place. So it is just over three years old. We did a huge amount of engagement with stakeholders at that point, so had a lot of input into it.

A key part of our ongoing strategy is engaging with our stakeholders in a variety of formats: through our website, annual reports, town hall meetings and a governance body that represents the stakeholders.

What has been the biggest challenge your fund has faced from a sustainability investment perspective?

The biggest challenge of our model is that we invest with third-party fund managers, so from that perspective there is a level of disintermediation. And if we are engaging with a manager it can take time for changes to be made, which can be a challenge with pooled vehicles.

Within those pooled investments have you had any sustainable investment surprises?

We haven't had any real issues within the portfolio. But what I would say is when you go through all the different language fund managers use to describe what they do, different organisations use different definitions. So we need to be cognizant of the fact that our definition may not be the same as everyone else.

Is that a big problem around those different definitions?

It is a huge challenge. You could get paralysed by the diversity of definitions and metrics. You also have some managers labelling stuff that may not be 100% correlated to what they are doing.

You have said that the requirement to deal with hard to abate sectors is an urgent responsibility. What have been your conclusions on this?

One of the issues is nearly a third of global emissions are from the steel, cement and aviation sectors. So far, there is not enough investment here to support the transition. The tendency has been to focus on electrification and renewable power. So there remain difficult technologies and sectors that need investment to decarbonise.

Sitting alongside that is the discussion we are having around the labelling of funds, reporting on funds and trying to set targets and incentives for fund managers to encourage and attract progress on sustainability ambitions.

But there is the potential that if we just focus on the total emissions picture to go down in a straight line, we may not be able to get investment for these high emitting sectors and to create the technologies that we need to put in place.

I don't have a great conclusion yet, but it is important for us to invest with asset managers who are investing in technologies to decarbonise in these areas in order to be part of the transition. We should not walk away from this area just for our portfolio to have a low emissions profile.

We need to be careful that as an industry we don't conflate tech funds with low emissions with a great impact on decarbonising the economy.

Will supranational events help or hold back your sustainable investment work?

National and supranational policies and frameworks are critically important. They have to happen. And they have to keep moving forward for us to have an investment universe of companies. Having said

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We are focused on sustainability, rather than just the ESG label.

that, for us, the real high impact work is working with our fund managers.

What would you change to beef up global co-operation on sustainable investment?

It is the point about consistency and co-ordination so that we can have global standards, which is happening with The Task Force on Climate-Related Financial Disclosures.

What is the biggest difference between your endowment and other institutional investors when it comes to sustainable investment?

There are quite a few things. We have an incredible long-term time horizon and don't have liabilities in the same way as a pension fund does. Our investment has provided for the university and is more than 800 years old. And although we will all be dead, hopefully the endowment will support the activities of the university in another 800 years. So we are an institution that is incredibly long term.

Our allocation is therefore different to, for instance, a closed DB pension scheme. We have a high target allocation in equities, at 60%. Of that, the long-term target for private equity is 30%. So we have a high percentage of private assets and equities and our private market managers have the tools to drive sustainability in companies for the long term.

Then we have access to the university and

its research, not just on climate issues, but in all fields. That is pretty unique.

That is sharing some of the scientific and research knowledge on climate change with our asset managers and gets them in that space where they can talk about what they can do and what their tools are as investors to drive the transition to a low-carbon economy. We have a bespoke executive education programme, completed by 18 firms, managing more than £150bn. That has helped to magnify our impact.

We are also a nice size with our net asset value being just over £4bn. We are big enough to have a good team to invest globally, but small enough to invest with early stage managers or managers who have capacity-constrained funds but are pretty nimble. That is quite exciting in that it helps us to build a strong portfolio.

What are your hopes for the fund and the wider sustainable investment industry?

In the long term, what would be great to see happen in the industry is for sustainable investment to be the core part of all investment. Not something that is seen as separate. That is the key hope.

For us as a fund, it is to be recognised as one of the asset owners that have been part of that important journey of sustainability being integral.

How far away are we from that?

We still have a lot of work to do. I don't know how far away we are. There has though been a huge positive with the direction of travel in the last five years. And there is strong momentum, but we don't see that being applied equally.

What is the biggest lesson you have learned in your career?

Not feeling paralysed by a lack of information. Taking what is in front of you and then making a decision. So being comfortable about being a little uncomfortable in making progress on climate ambitions and to think differently.

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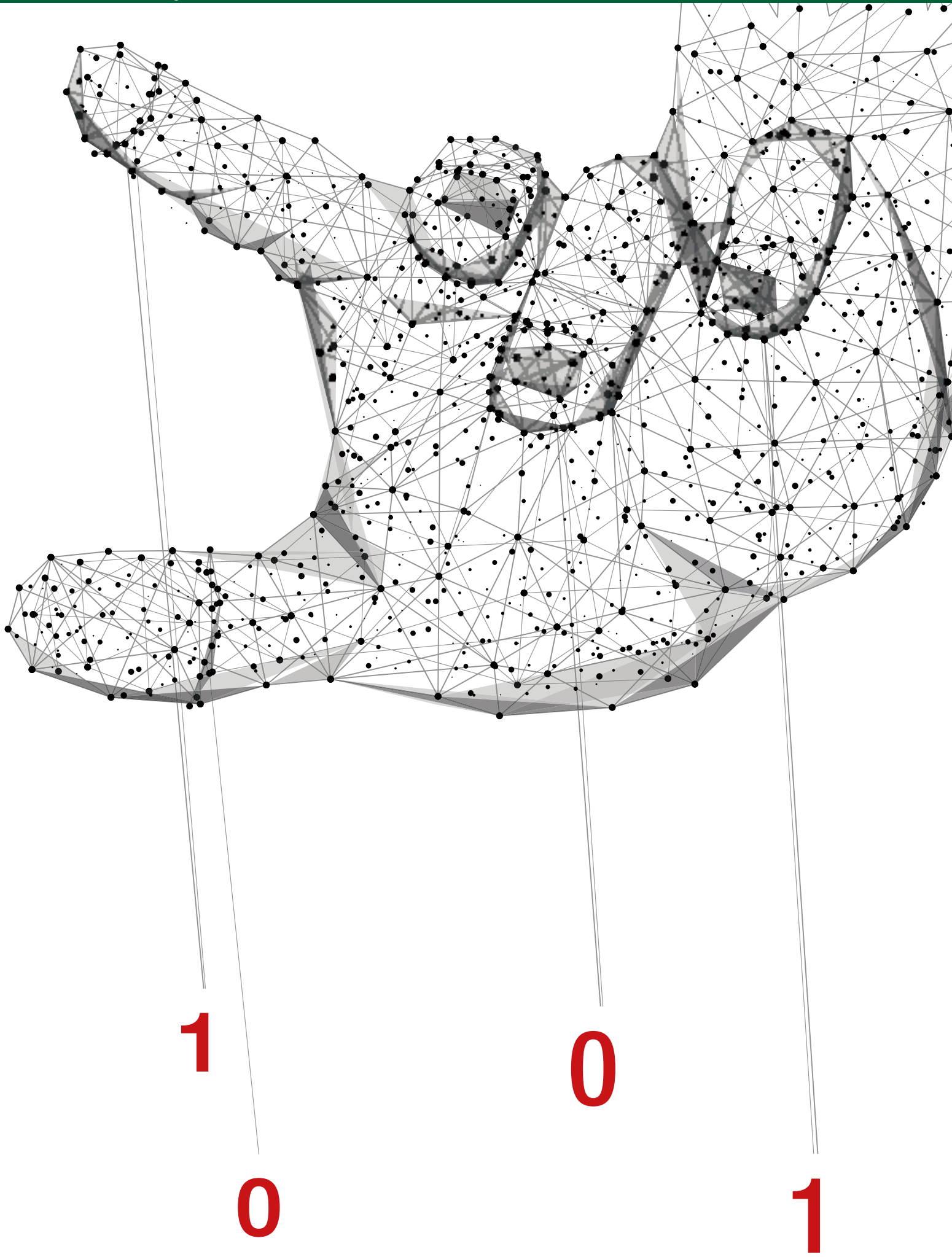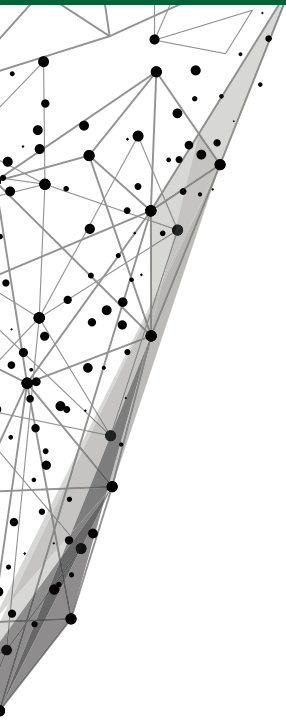
ARTIFICIAL INTELLIGENCE: ARE FRIENDS SYNTHETIC?

Algorithms are changing the world, but will they help or hinder efforts to make society greener and fairer? *Mark Dunne* takes a look.

We are living in revolutionary times. Artificial intelligence (AI) is influencing our lives in a way that can only be compared to the transformational impact of the industrial revolution, or the inventions of the steam train, car, telephone and internet.

Computer systems that are designed to think like people are becoming more prevalent in society. Being programmed to learn, reason and problem solve means these AI algorithms can perform tasks that only people were once considered capable of doing, such as driving cars, dealing with customer complaints, recommending TV shows, translating text into different languages and even writing songs.

These algorithms, the most famous of which is ChatGPT, have the potential to enhance and improve all areas of society, from our personal lives to the commercial world, the military, healthcare and science.

For example, it can automate tasks such as processing invoices and packing customer orders faster in retail warehouses. They can help scientists make new discoveries and answer students' questions in the classroom.

You could argue that as these algorithms are being developed to be smarter versions of the people who created them, they could have a bigger impact on society than industrialisation, the opening of the first commercial oil well and perhaps even the discovery of fire.

Demand for such services is high. Indeed, AI is worth more than India and China's combined GDP at $15.7trn (£12.3trn), PwC believes. Around half of this ($6.6trn) is expected to be generated by improved productivity, with the remainder from consumption.

Hot chips

To understand the strength of AI's growth, we have to look at Nvidia, which makes chips for the applications algorithms run on. Its sales reached $18.1bn (£14bn) in the three months to the end of September – $12bn (£9.4bn) more than in the same period a year earlier. Analysis have been quoted as estimating that in the next two years, its revenues could break $60bn per annum.

"From my discussions with our managers, [AI] is going to be a massive game changer," says Jennifer Devine, who is head of pensions at the Wiltshire Pension Fund. "They describe it as a paradigm shift.

"It is going to be a big deal and that is why we are taking a look at it. But we don't know anywhere near as much as we would like to know at this stage in the game. There is just so much to talk about, whether it is a good thing or a bad thing.

"We have all seen Nvidia's stock performance rocket and felt that we needed to dig a little bit deeper to explore some of the wider implications," she adds.

But while AI offers the potential for great rewards, the potential risks are equally as high, if not greater. Putting machines in charge of our lives only for them to turn on us with often fatal consequences is the theme of many science fiction stories.

One example is Arthur C Clarke's 1968 novel *2001: A Space Odyssey*, where putting a computer in charge of a spaceship turned into a life-and-death battle for the crew. The computer attempted various methods to kill them after they tried to disconnect the system on fears that it was malfunctioning. The computer uncovered the plot by lip reading a conversation.

Then there are the Terminator films, where the US government putting a self-aware computer in charge of its defence

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>
> Jennifer Devine, Wiltshire Pension Fund

system turned the world into a nuclear battlefield after identifying humanity as a threat.

So is the world ready for such disruption to our lives and the power that is now in the hands of corporates and governments?

Another issue is that with many institutional investors focused on building a sustainable, renewable and a more equal world, can AI be used to achieve such an aim, or will it cause job losses and emit more harmful gases into the atmosphere?

Show me the honey

For the Wiltshire Pension Fund, the impact of AI is largely being felt in its portfolio. "A lot of the stocks we have in our sustainable portfolio might end up being affected by [AI]," Devine says. "There is more tech in there and forward-thinking solutions stocks, so we could end up seeing more of the implications of it."

However, at this point Devine is not sure how AI could benefit the fund's sustainable investing process but believes that it could help in assessing data. "We have a world of climate data and it takes our analysts quite a lot of manpower to plough through that," she adds.

So crunching the numbers could be the main benefit of using AI to ensure better sustainable investment decisions.

Savings bees from possible extinction is one such use for a system that can process huge amounts of data. Bees are crucial to our life support system, yet their numbers are falling at a time when we need to produce more food to feed growing populations.

The World Bee Project is an initiative that uses artificial intelligence to try and help bees live longer. They gather information

on their habits from sensors, microphones and cameras. That data is then analysed by an algorithm to spot any trends that could help science intervene to increase their chances of survival.

Another way to produce more food sustainably is to use the analysis AI can provide to maximise output through nurturing seeds and knowing the perfect time to harvest crops. Data could also be used to identify failing crops or spotting the early stages of a drought.

Devine highlights the role tractor-maker John Deere is playing here. The company is using AI to reduce the use of the pesticides that are harming soil. It is using drones to identify weeds so farmers can then specifically target them with pesticides. "That is an environmentally progressive development that it has made as a company," she adds.

The machine will see you now

The research side of medicine is one area that will benefit from AI, without scores of jobs being made redundant.

It could, for example, research a disease to predict its development and therefore allow doctors to diagnose it earlier. Back in 2021, a team of Mount Sinai medical researchers created an algorithm that predicts the development of diseases, including cancer. The team reported a 94% success rate.

Then there is making life easier for people living with disabilities. Huawei, the multi-national Chinese tech giant, used AI to create StorySign, an app that translates text into sign language to help deaf children learn.

The company also created Track AI, a device that can identify visual disorders in children in the hope of being able to treat problems to avoid sight loss. Again, AI is being used to help diagnose medical conditions earlier to help prevent long-term conditions.

More time to play?

One of the outcomes of AI is automation. It started with barriers in car parks, coffee vending machines, factory production lines and ATMs, but thanks to AI automation is rapidly spreading to other industries. Education is one such example, where students are learning more online, even in the classroom, where the system can answer their questions and mark their work.

Jobs in finance, the clerical side of the legal profession, coding, graphic design, administration and problem solving in engineering are also at risk of disappearing. Indeed, more than 300 million full-time jobs around the world are at risk from AI, according to Goldman Sachs. A report published by the investment bank on the issue concluded that some two-thirds of jobs around the world are exposed to automation, while AI could take over a quarter of all tasks in the workplace.

So more AI leads to greater automation, which points to fewer jobs in the economy as people are replaced by machines. Unless new jobs are created and retraining is provided, then inequality in society is only likely to grow.

Christopher Moore, an investment team lead at the Wiltshire Pension Fund, says people are not quite sure what impact AI is going to have in some sectors yet. "But the likely expectation is job losses or job changes," he adds.

For Devine, this highlights the need for stakeholder engagement when it comes to AI. "It is a theme that needs to be looked at, particularly from the social aspect of people losing their jobs or not being retrained."

But one person was not worried about the impact of growing automation. Arthur C Clarke said that he did not fear automation because "the goal of the future is full unemployment, so we can play". But he was an anti-capitalist, so perhaps he gave little thought to who is paying for billions of people around the world to "play" instead of finding a way to pay the rent.

But there are not just social side effects of the rise of AI to consider. One of the winners of the AI boom is expected to be data centres. More computer algorithms mean a greater number of data centres having to supply more power to support them, which means creating a larger carbon footprint.

Research carried out by a team at Cornell University looked at the environmental impact of machine learning and found that the process can emit more than 50 tonnes of carbon dioxide, which is 25% more than a typical car driving on the highways and roads of the United States.

A brave new world?

Don't worry. Artificial intelligence may not turn us into slaves or kill us after deciding that we are a threat to the world. We have to put our confidence in the designers that they are factoring security measures into their systems to avoid such outcomes. But AI will make our lives almost unrecognisable in the next 10 years. Working practices will change and some jobs will disappear, while others may be created.

There are bigger concerns. Will these algorithms help the world transition to cleaner sources of energy, produce more food more sustainably and create a more equality in society? Well, it will certainly benefit medical science and help investors digest reams of data faster, which could improve outcomes.

But as more algorithms are created, there will be a greater need for power to fuel them. This will only increase the level of carbon being expelled into the atmosphere, while the social challenges of more jobs being eradicated than created will lead to the gap between those who have and those who don't growing wider.

So many of the world's citizens may not be so happy just playing all day, as Mr Clarke was hoping he would end his days.

ENTERING THE AGE OF ARTIFICIAL INTELLIGENCE

Technological advances have a long track record of effecting profound change in the way we live, work and play. However, artificial intelligence (AI) hails the prospect of transforming disruptive tech.

AI's disruptive potential is generating huge excitement across financial markets, while also raising questions about its wide-ranging risks. For investors, AI is becoming a trend that we can't afford to ignore, but sifting beyond the hype to uncover genuine, long-term opportunities won't be straightforward.

AI's disruptive potential is generating huge excitement across financial markets, while also raising questions about its wide-ranging risks. For investors, AI is becoming a trend that we can't afford to ignore, but sifting beyond the hype to uncover genuine, long-term opportunities won't be straightforward.

Accelerating the AI evolution

More than a feature of science fiction, AI has been a scientific reality since the 1950s, but its integration into our world has been relatively sedate until now.

Artificial intelligence is a technological advance in its own right. More importantly, it is an enabler that a whole spectrum of players can harness to build new products and services. The technology's 'generativity' – its capacity to produce unanticipated changes – is already bringing rapid advances and significant disruption across industries.

As a result, we are on the verge of series of technological revolutions in various sectors – and as we know from previous such revolutions, that means a period of creative destruction, with change happening quickly, existing players being outpaced by new challengers, and new solutions to old problems emerging at pace.

This effect was seen in a microcosm with the launch of OpenAI's ChatGPT, which apparently came from nowhere to become one of the fastest-growing consumer technologies of all time, leaving previously unassailable tech giants scrambling to keep up. While still in its infancy, this technology already offers a breadth of usages – from writing text to summarising data or even assisting developers with generating code.

A key differentiator from previous AI systems, generative AI can produce content that flows in a natural, human-like way and has been used to produce credible poetry and songs. And this is just the start. It has evolved beyond text to generate content in other formats including images, video and audio and has the potential to unlock other new frontiers in innovation and creativity.

A burgeoning AI economy

Unlike prior AI iterations that were the domain of IT specialists, generative AI applications have a much broader utility – almost anyone can use them to communicate and create. Consequently, its adoption is likely to be accelerated to a point of ubiquity, which could add trillions of dollars to the global economy. McKinsey's latest research, for example, estimates that generative AI could add the equivalent of $2.6trn to $4.4trn (£2trn-£3.4trn) annually.

Initially, there will be significant knock-on effects on the wider technology sector. Market-leading software providers are already leveraging the technology in programming and to do augmented coding. Meanwhile, semi-conductor manufacturers are reaping the rewards from the exponential growth in computing resources demanded by evolving generative AI systems.

Yet, the real excitement about AI surrounds the value it can create for businesses beyond the technology sector.

Promising AI applications

As has already been seen with digitalisation, AI has a wide variety of impactful tools that will improve cost efficiencies and unlock new revenue streams across many industries. In fact, the Centre for Economic Policy Research predicts that around 70% of companies will adopt at least one type of AI technology by 2030. According to McKinsey, the areas of most immediate change are likely to be customer service, marketing and sales activities, and research and development, which will in turn impact industries such as banking, retail and life sciences.

For customer services, generative AI chatbots will be used to automate interactions with consumers, improving the speed, quality and effectiveness of automated responses and enabling human agents to spend their time on more complex or value-added activities. The sales process will become more personalised, as AI systems can rapidly process data to identify tailored product suggestions better suited to consumer preferences. Such advances could result in AI virtual shopping assistants recommending clothes based on our sizes and tastes and advising where to buy them; virtual health assistants creating personalised meal plans and workout routines using data collected from our wrist monitors; or even entertainment assistants that generate customised TV viewing plans.

AI has the potential to be the great equaliser in education, erasing distinctions across countries and between state and private education systems. There are widespread applications personalised learning approaches – from helping children who are falling behind to supporting the integration of those arriving in new countries without language skills.

The ability to map, monitor and manage supply chains means AI can drive marked

improvements in productivity and efficiency. Firms can use AI technologies for demand forecasting, predictive planning and transport route optimisation. This has implications for vehicle production and for how those vehicles are used. In the future, we could see dramatic changes to the transport system, with autonomous vehicles driven on optimised routes that reduce congestion, allowing people and goods to move around much more quickly and reducing the impact of transport on the environment.

Within life science industries, AI is already being used to accelerate the development of new drugs or to design new therapeutic tools and can be used to predict the efficacy of drugs and speed up testing. Pharmaceutical companies are buying up specialist AI firms, but the winners will be those with the ability to nurture AI capabilities and combine them with manufacturing and implementation expertise. And it is AI's creative capacity that is boosting hopes that it will play an innovative role in ushering in new climate-saving solutions.

New technology creates new risks

Whenever a new technology emerges and gains rapid adoption, there is a risk that some companies will be disrupted or disintermediated, particularly if they don't adapt quickly enough. However, generative AI also presents a swathe of risks around employment and content generation, data security and privacy, energy consumption, and even diversity and inclusion.

Amid all the talk of business optimisation and virtual assistants is a real concern about workforce displacement – estimates from CNBC suggest that two-thirds of jobs may become automated to at least some degree. AI's content-generating skills are also creating consternation in some areas amid the growing spread of misinformation and the misuse of people's voices and physical images.

From an environmental perspective, AI data centres are already responsible for 2% to 3% of global greenhouse gas emissions, per Harvard Business Review, but data volumes are expected to double in size every two years. Digitisation has already been shown to have a problem with impartiality; if not tackled quickly gender and racial biases within AI programs could hinder efforts to enhance diversity, equity and inclusion.

With AI developing at such a rapid pace, it is hard for regulation to keep up although authorities are starting to weigh in on the issue. The upcoming EU Digital Services Act includes provisions for an ethics framework for AI as well as guidelines to help adjudicate AI-related issues; meanwhile, the Algorithmic Accountability Act in the US requires periodic assessments of high-risk AI systems that involve personal information or make automated decisions.

Finally, AI is already exacerbating existing geopolitical tensions, notably the rivalry between the US and China. Both countries are pouring resources into AI, but China's lack of privacy laws may mean it has an edge in the form of huge data sets. Increased protectionism and the desire for digital sovereignty may prevent AI firms from achieving global scale.

AI as a key growth driver

As AI adoption proliferates, there are also risk factors to monitor with respect to fundamental analysis, environmental, social and governance (ESG) factors and investor sentiment.

From a growth perspective, the speed and duration of infrastructure development are uncertain, and there could be pauses for 'digestion' during the process. AI expenditure could crowd out budgets for other information technology projects.

On the ESG front, irresponsible users could abuse AI for surveillance, hacking and the creation of deep fake news. Biased data sets may result in incorrect output from AI models. Other issues include the significant energy requirements for powering the data centres that run AI models.

Avoiding the AI hype

As the age of AI commences, investors should pay close attention to its far-reaching potential. Yet, as previous technological disruptions have taught us, it is easy for investors to get swept up by the latest megatrend, but it is far more challenging to differentiate between who will be the ultimate winners and who will fail to make a lasting impact.

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