The Intel Sustainable Intelligence Index

Financial Services

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Introduction

Artificial intelligence (AI) is a major disruptor in the financial services sector. Combined with the surge in big data and widespread availability of high-performance computing, AI has redefined the speed, accuracy and quality of products and operations for financial services organizations and their customers.

Not only can it process vast data sets, make rapid risk assessments and deliver time-sensitive reports, AI is helping businesses detect fraud, predict stock prices and create a more personalized experience for their customers.

But introducing efficiencies through new technology will not be enough long-term – as AI use scales up, organizations will contend with rising carbon emissions generated by the tech they rely on for a competitive advantage. So, it's important for business leaders to consider the lifetime impact of AI solutions from the start, and understand how it can be implemented to accelerate – not hinder – their organization's overall sustainability goals, as well as operational strategy.

At Intel, we want to assist financial services C-suite leaders in maximizing the opportunities that AI presents for their industry. By broadening the conversation

to ensure sustainability is top of mind when implementing new technologies and processes, we can help organizations on two fronts:

Tech zero_	🔍

Using AI to reduce the carbon footprint of their IT function.

Tech positive_	🔍

Using AI as a lever for the whole organization to reach its net-zero goals and to have a positive overall impact, driving business growth and accelerating innovation.

From our previous research, _The Sustainable CTO_, we found there is a 'Tech Trilemma' – a need for boards to focus on knowledge, investment and innovation – when it comes to leveraging AI for sustainable progress. By assessing the financial services sector against these pillars, _The Intel Sustainable Intelligence Index_ reveals where leaders could be focusing their efforts to advance sustainability-related AI, both within their IT function and throughout the wider organization.

By examining the behaviors of 'Visionary' financial services organizations, we learn valuable best practices that can lead the way to a more sustainable future through strategically deploying AI solutions.

Motti Finkelstein
Corporate Vice President and
Chief Information Officer, Intel

About the study

The Intel Sustainable Intelligence Index is based on an independent opinion research study carried out in 2024 by Intel, in partnership with Man Bites Dog. The research sample of 2,000 C-suite leaders was made up of 1,500 senior IT decision-makers, 250 CEOs, and 250 Chief Sustainability Officers. Respondents were from organizations across 11 sectors across 22 markets.

Key terms

Tech zero_	🔍

Using AI to reduce the carbon footprint of an organization's IT function.

Tech positive_	🔍

Using AI as a lever for the whole organization to reach its net-zero goals and to have a positive overall impact, driving business growth and accelerating innovation.

More information about _The Intel Sustainable Intelligence Index_ can be found in the full report, _found here_.

Visionaries_
Those in the top third of the scoring range (i.e. industry leaders).

Advancers_
Those in the middle third of the scoring range.

Followers_
Those in the bottom third of the scoring range.
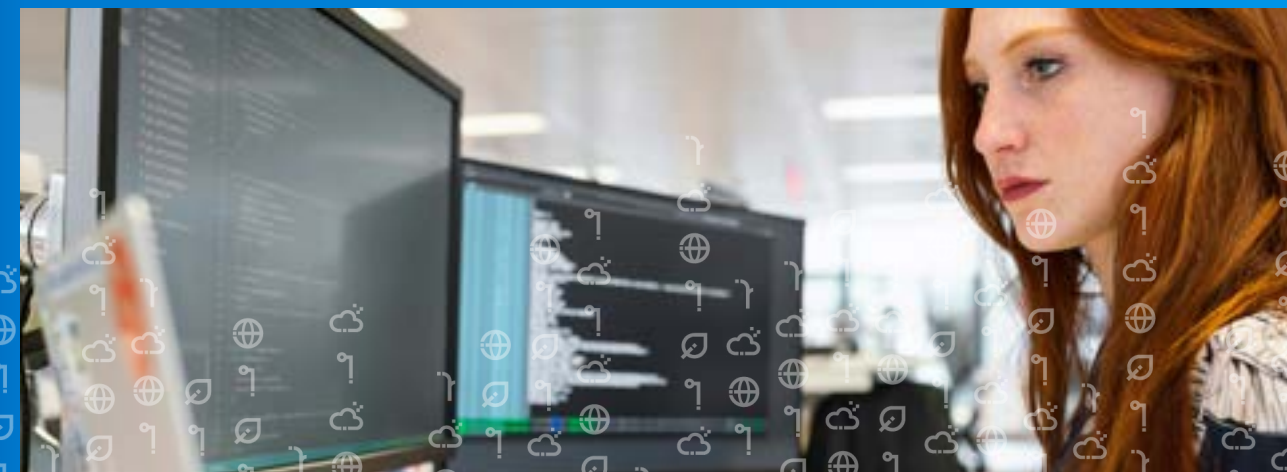
AI for sustainable financial services

The intention-action gap

AI offers huge benefits for financial services organizations, from predictive trading algorithms, trend analysis and enhanced security, to powering chatbots and hyper-personalization for end customers and clients. As the technology develops, there is a growing wealth of business opportunities available to the organizations that are in a position to implement AI on a broad scale.

So, when it comes to general AI adoption, it's unsurprising that financial services organizations are ahead of the curve compared with other sectors. A fifth of business leaders report that their business is already refining and maximizing the efficiency of their AI use, and one in 10 believe they are setting the pace for cutting-edge AI advancements.

AI maturing stage:

Exploring
Beginning to explore AI applications and possibilities.

Implementing
Actively integrating AI solutions into specific processes or functions.

Leading
Establishing industry standards and setting the pace for cutting-edge AI advancements.
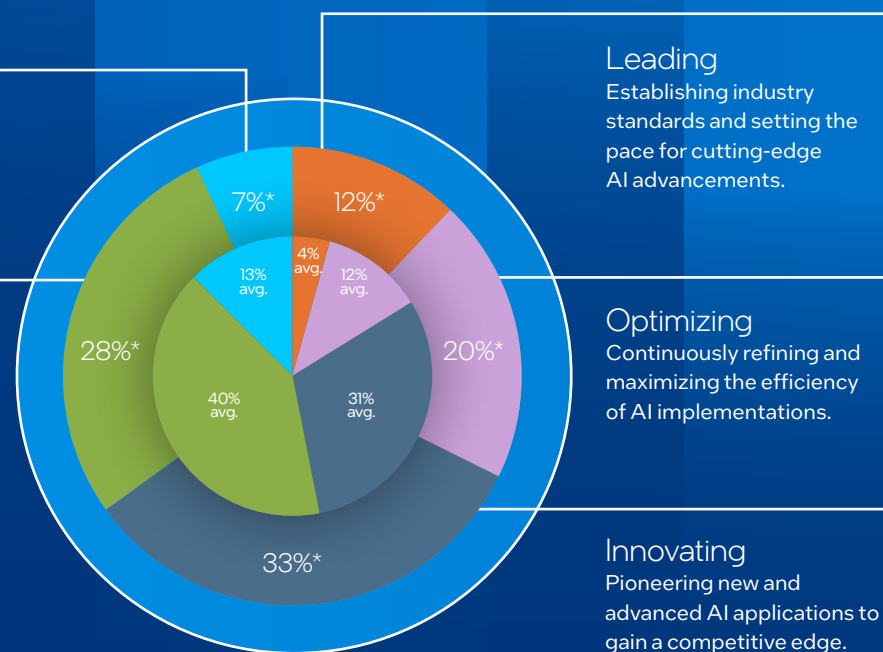
Optimizing
Continuously refining and maximizing the efficiency of AI implementations.

Innovating
Pioneering new and advanced AI applications to gain a competitive edge.

7%*
12%*
13% avg.
4% avg.
12% avg.
28%*
40% avg.
31% avg.
20%*
33%*

* of financial services businesses

As adoption rates rise, business leaders will have to assess the role of AI in their overarching goals, to ensure that investment and implementation strategically support other areas of focus, like sustainability.

Our research reveals that, at present, this consideration is not being fully realized; there is a gap between business leaders' *intentions* to use AI in their sustainability efforts and the *action* that is being taken.

78%

of financial services leaders believe that sustainability-related AI solutions could have a great impact on their business, but only 42% report that their organization is deploying these solutions.

"AI prediction models are proving to be a huge boon in the financial services sector, particularly in risk-sensitive scenarios. Their ability to anticipate adverse circumstances means that both the organization and its customers can get ahead of risk – for example, identifying an economic, geopolitical and climate change trend or patterns and effect of that in market. If banks and insurers are forewarned about a loan potentially defaulting or an increased risk of drought or fire, they can work with their customers earlier and take preventative measures."

Parviz Peiravi
Global CTO, Financial Services Industry Solutions, Intel

The Intel Sustainable Intelligence Index

The Intel Sustainable Intelligence Index measures **the use of AI to drive sustainability across 11 key sectors.** Sector responses are scored across three pillars:

Knowledge_

The level of understanding around using AI for sustainable outcomes, and how actively organizations are applying that knowledge.

Investment_

The proportion of an organization's IT budget and overall revenue allocated for sustainability-related AI initiatives.

Innovation_

The level of innovation in developing and implementing AI solutions, whether there is collaboration between internal teams and external partners, and how much AI is contributing to achieving sustainability objectives.

Organizations are split into three groups based on their scores:

Visionaries_
The companies blazing a trail in sustainability-related AI (i.e. in the top third of the scoring range).

Advancers_
The companies making headway in this space (i.e. in the middle third of the scoring range).

Followers_
The companies at risk of falling behind the curve. (i.e. in the bottom third of the scoring range).

When it comes to leveraging AI for sustainability, the financial services sector is performing well in comparison with the other sectors in our study, ranking second behind TMT. Knowledge is the sector's strongest pillar, with over half (53%) of leaders being identified as Visionaries. However, investment is falling behind; less than a quarter (23%) of leaders emerge as Visionaries and 16% are Followers – the highest ratio of the three pillars.

Overall sector performance

Visionaries	Advancers	Followers

Sector	Visionaries	Advancers	Followers
Technology, Media & Telecommunications (TMT)	35%	59%	6%
Financial Services	32%	60%	8%
Manufacturing	23%	62%	15%
Transportation & Automotive	19%	64%	17%
Travel & Hospitality	18%	65%	17%
Healthcare & Life Sciences	18%	61%	21%
Engineering, Energy & Infrastructure	17%	75%	8%
Retail	12%	72%	16%
Professional Services	12%	69%	19%
Education	9%	67%	24%
Government & Public Sector	8%	73%	19%

Overall pillar performance for Financial Services

Visionaries ▪ Advancers ▪ Followers

Pillar	Followers	Advancers	Visionaries
Knowledge_	5%	42%	53%
Investment_	16%	61%	23%
Innovation_	10%	59%	31%

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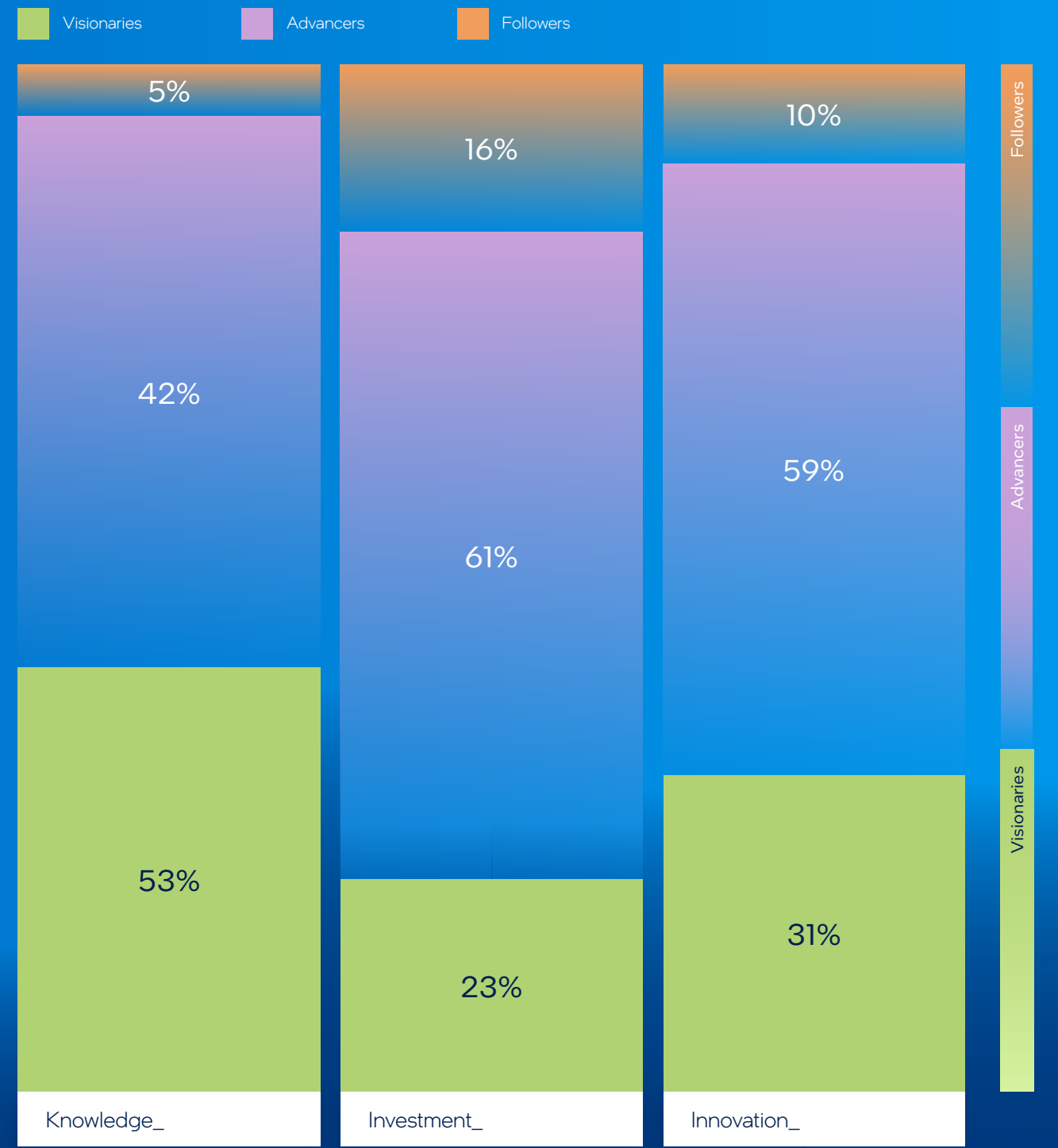
Tech zero vs. tech positive

The Index also evaluates sector progress through the lenses of tech zero and tech positive – or AI for sustainable IT, and AI for sustainable organizations.

Tech zero_

65%

of leaders in financial services say their organization is utilizing AI to reduce the carbon footprint of the IT function.
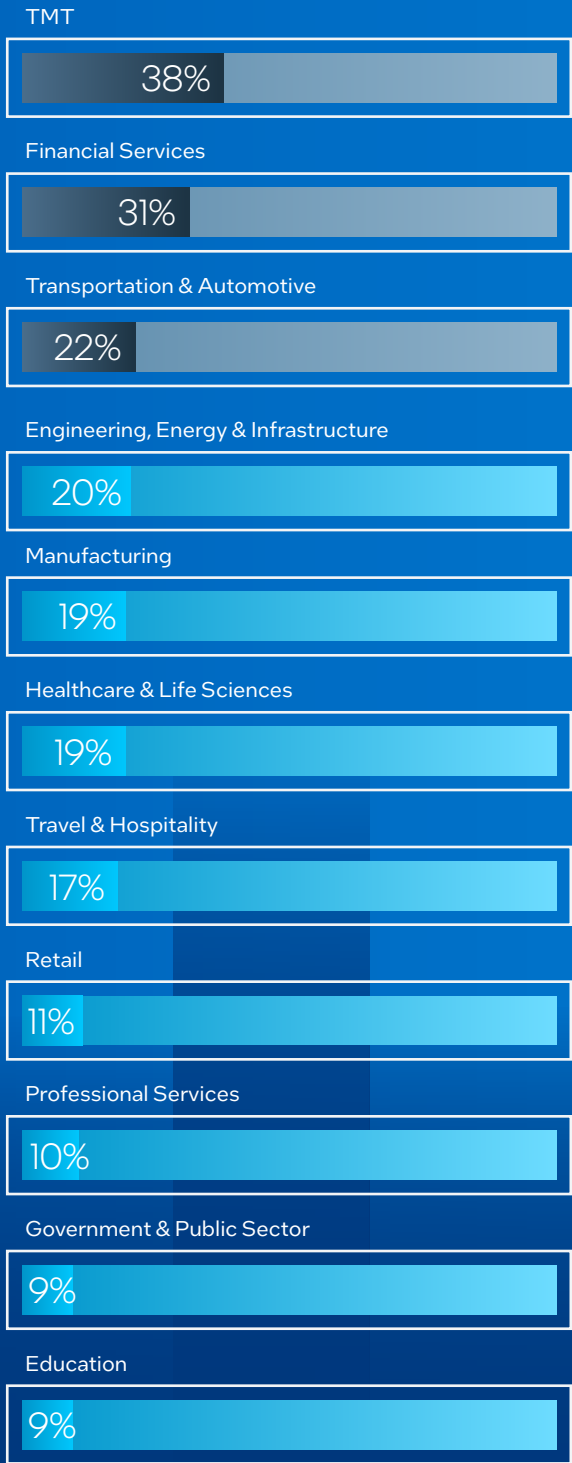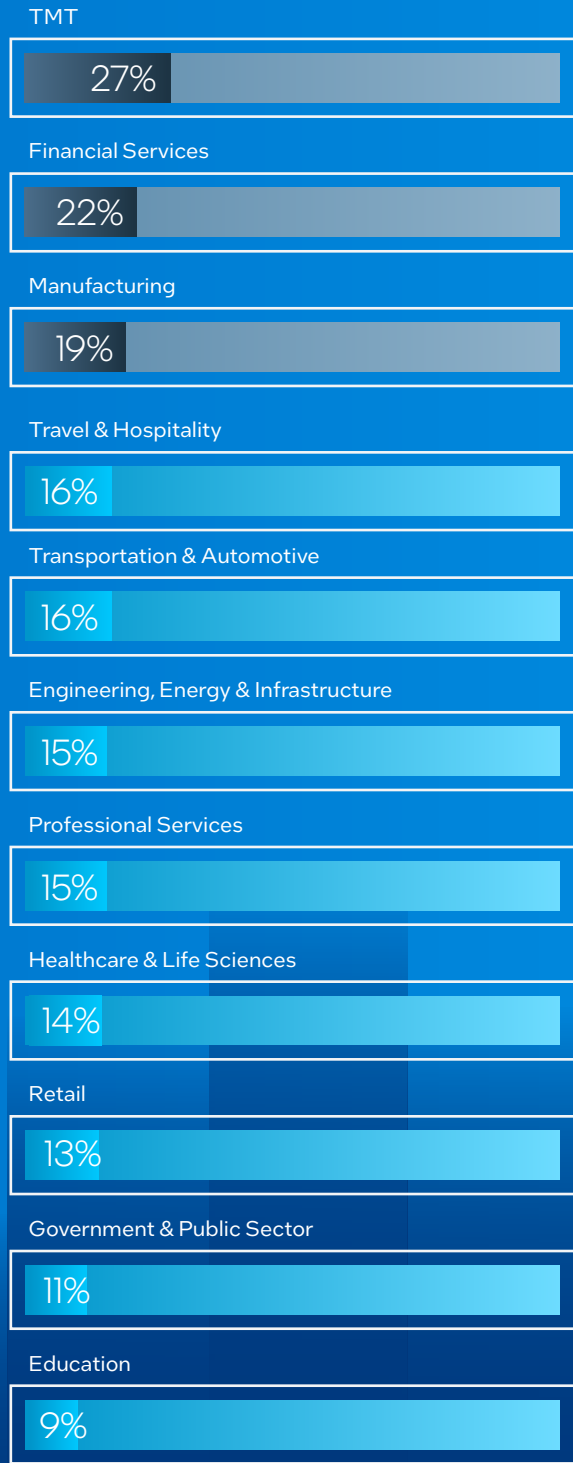
Tech positive_

69%

of leaders say their organization is using AI as a lever for the whole organization to reach its net-zero goals and to have a positive impact.

Tech zero_

TMT
38%

Financial Services
31%

Transportation & Automotive
22%

Engineering, Energy & Infrastructure
20%

Manufacturing
19%

Healthcare & Life Sciences
19%

Travel & Hospitality
17%

Retail
11%

Professional Services
10%

Government & Public Sector
9%

Education
9%

Tech positive_

TMT
27%

Financial Services
22%

Manufacturing
19%

Travel & Hospitality
16%

Transportation & Automotive
16%

Engineering, Energy & Infrastructure
15%

Professional Services
15%

Healthcare & Life Sciences
14%

Retail
13%

Government & Public Sector
11%

Education
9%

Financial services organizations appear to be leveraging AI to improve the sustainability of their IT function and their wider business, as almost a third (31%) come out as Visionaries for tech-zero indicators, and just over a fifth (22%) could be considered Visionaries for their tech-positive activity.

The sector has a legacy of early adoption and experimentation when it comes to technology to improve service efficiency. From ATMs to mobile banking, and contactless payments to cryptocurrencies – AI is just a new opportunity for financial services to innovate. But it's not only technology that's good for business – sustainability is too. Strategically leveraging AI across organizations to yield more types of efficiency – reducing energy use and limiting waste, for example – could boost profits, investment and carbon-efficiency.
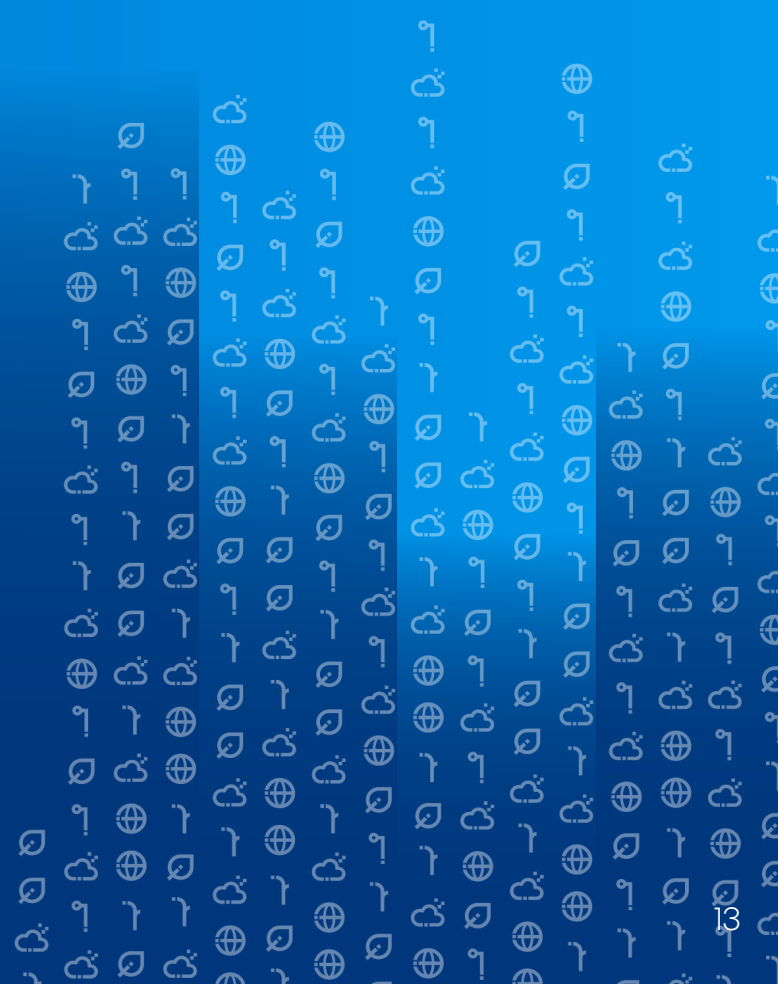
"ESG reporting hinges on high-quality data and accurate analysis from a huge number of sources across an organization and its network. By quickly and precisely processing information on all aspects of a business – from its financial infrastructure and operations to its personnel and technology adoption – AI is enabling financial services organizations to quickly raise the bar for ESG reporting and helping inform leaders where their sustainability strategy targets should be focused."

Parviz Peiravi
Global CTO, Financial Services Industry Solutions, Intel

Knowledge

Visionary organizations understand how AI can be used for sustainable outcomes.

They are actively implementing this knowledge to reach its sustainability targets, and regularly engaging employees in the entire workforce beyond the IT function in relevant training. Furthermore, these organizations have – or are actively recruiting for – AI-related job roles throughout the business.

Knowledge is the strongest pillar for financial services. More than three-quarters (76%) of C-suite leaders believe their organization is dedicated to ensuring its employees are not only skilled in current AI technologies, but are also prepared for future advancements in the field.

And leaders are working to develop this in-house expertise, with two-thirds (66%) of leaders believing their organization boasts a highly skilled AI workforce, while two in five financial services organizations have a Chief AI Officer in position already, and 36% are actively recruiting for one. Similarly, over a third (38%) have an AI trainer in position within their IT team, and 39% are actively recruiting for one.

Understanding how AI can advance organizational sustainability isn't enough on its own – that knowledge has to be actioned. Seven in 10 (71%) of business leaders say their organization is actively incorporating AI expertise to drive sustainability initiatives, but our findings reveal room for progress across all three pillars, suggesting there is a gap when it comes to recognizing the value of investment and innovation. All three pillars are critical to organizations harnessing the power of AI for sustainability outcomes effectively, and progress may be limited without a strategy that leverages the strength of their knowledge more holistically.

Tech zero: AI for resource and workflow management

Within financial services organizations, there are vast numbers of workflows happening at any given time. AI can not only make these more streamlined but can also reduce the associated carbon output.

Automated workflow management

Multiple workflows can, at times, need human intervention if something breaks down. However, by utilizing automated workflow management systems, it can help to streamline and automate routine tasks, minimizing downtime and reducing energy expenditure. AI can ensure that processes such as updates and backups run at optimal times when workflows are under less demand.

Resource allocation

Algorithms can predict and allocate IT resources based on live demand levels, ensuring that they're not strained or unavailable to perform certain tasks. In high-paced environments within financial services organizations, it's crucial to be as streamlined and efficient as possible. In turn, this also has a positive impact on energy usage, as computing power levels are only allocated as required.

Pillar 2

Investment

When it comes to investment, Visionary organizations are spending a significant portion of their IT budget and annual revenue on researching and developing sustainability-focused AI solutions.

These organizations will already be using AI for a variety of applications within the IT function and beyond, and will have further tools in the pipeline.

Across all 11 sectors in our study, investment is the pillar that is halting progress when it comes to introducing sustainable AI. Financial services are no exception; almost seven in 10 (69%) financial services leaders say their organization's current AI strategy is aligned with its broader net-zero objectives, but our research finds a gap in sustainability-related AI investment.

This may be because, although the financial services sector is often a leader in technology adoption, it is characteristically risk averse. It could be that, for business leaders and investors, concerns about data privacy or cyber security outweigh the known benefits of AI. Or, organizations could be holding off making significant investments until the regulatory landscape becomes clearer – globally, plans for legal oversight of AI are still largely in their infancy and its potential impact on organizational use is uncertain.

But this hesitation to invest is a threat to sustainability progress. Two-thirds of leaders say their organization's investment in AI is set to triple in the next 12 months, but when predicting how their sustainability-related AI budget will change in the next 12 months, although 82% of leaders expect it to increase, they predict it will increase by an average of just 7%.

For financial services, this presents a substantial opportunity. Based on the businesses in our research, investors in AI for sustainability could see widespread improvements to organizational efficiency – resulting in annual savings of up to $39m.

The ROI of AI in financial services:_

$13.1m
Average annual cost savings per company

$39m
Maximum annual savings per company

"Keeping up with the rapid evolution of AI is challenging, and financial services organizations want to extend the lifespan of their technology without compromising on efficiency or missing out on major advancements.

At Intel, we work closely with a number of partners to help our customers optimize within their existing infrastructure and stack and also strategically implement new, high-power technology where it can offer the greatest benefit. By working across the whole ecosystem, financial services organizations can architect hardware, software and networks for longevity, using AI to reduce their overall power requirements and subsequently lower operational costs."

Parviz Peiravi,
Global CTO, Financial Services Industry Solutions, Intel

Pillar 3

Innovation

To be a Visionary organization in the innovation pillar requires high levels of collaboration among internal teams and external partners to share ideas and best practice around the use of AI for sustainability.

Visionary innovators will be seeing AI solutions contributing towards their overall sustainability goals, and are likely to have filed successful patents for sustainability-related AI tools or solutions in the last 12 months.

AI is already being leveraged across financial services for data-driven decisions like investment analysis, portfolio management, credit scoring, risk management and fraud detection. And overall, sector leaders are in favor of finding new ways of using AI to stay competitive; three-quarters (75%) believe their organization's IT function is the most innovative within the whole organization, and 70% say they have an AI innovation center or lab.

However, unless AI is utilized for *sustainability* as well as efficiency, there is limited scope for strategic impact across the business. Currently, a middling 63% of leaders believe their organization is either fairly innovative or extremely innovative in terms of using AI as a lever for the whole organization to reach its net-zero goals and have a positive impact, suggesting that innovation centers and labs could be making greater progress towards securing sustainability gains.

Currently, financial services organizations are deploying new technologies for their sustainability benefits in a number of different areas across tech zero and tech positive:

Tech zero:

1. Algorithm and data efficiency
2. Computer Vision for improved quality or reduced waste
3. Cloud computing optimization
4. Sustainable supply chain optimization

Tech positive:

1. Predictive analysis
2. Energy consumption / efficiency
3. Energy consumption optimization
4. Resource management

Tech positive: Real-time fraud detection

For financial services organizations, fraud detection, and more importantly, prevention, are top of mind. AI algorithms, data processing and analyzing tools are imperative to keeping fraudulent attacks at bay.

Detection

AI can analyze patterns and detect anomalies in data sets, identifying suspicious activities and alerting the wider system that there may be an issue at hand.

Prevention

The volume of data that needs to be analyzed is continually growing, but with technologies such as those from Intel and Aerospike's real-time data platform, fraudulent transactions can be reduced by 30X.

Energy reduction

By utilizing new databases and technologies, storage can be increased, servers reduced, costs and time can also both be reduced. All of which feeds into bringing down the overall energy consumption required to keep financial organizations safe.

Case study

PayPal Solves Fraud Challenges

Conclusion

Closing the intention-action gap for financial services

Financial services leaders are focused on upskilling and recruiting the right talent to ensure AI expertise and technical support are in place across their organization.

However, there is a critical opportunity for business leaders to apply this knowledge even more broadly and boost investment, innovation and sustainability initiatives. This understanding will help boards evaluate the risks and benefits of AI more effectively, support existing efforts to deploy new technologies and bring AI sustainability strategy and wider business strategy into closer alignment.

As we step into the era of exponential data, financial services organizations have the experience to become visionaries in AI solutions. The key will be to bring digitalization and sustainability together and using them as complementary tools to secure long-term, sustainable growth.

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Disclaimer, authorship, and acknowledgments

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Resources

For more information about Intel's sustainability goals and progress please visit: *www.intel.com/sustainability*

About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to *newsroom.intel.com* and *intel.com*.

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