

INNOVATE/FINANCE



THE FUTURE OF AI IN FINANCIAL SERVICES 2025



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FOREWORD - IS AI THE FUTURE OF PAYMENTS MODERNISATION?

An expert view from RedCompass Labs



Tom Hewson CEO, RedCompass Labs

Back in the 1970s, the world was told the silicon chip would revolutionise everyday life. Nothing changed in the beginning. And then everything changed.

At the height of the dot-com boom, every other billboard promoted a website promising instant delivery and endless possibilities. The market crashed. People doubted the internet's potential. Then it changed everything.

However big we think artificial intelligence (AI) is now,

whatever happens with market valuations for AI companies in the short term, however long it takes to impact our lives, soon it will change everything.

AI will amplify expertise as the mundane is reduced, enabling us to do much more with much less. It used to take an entire village a day to harvest a crop; now it takes one person with a machine. AI will be no less radical.

It will probably be more.

What does this mean for payments?

AI is not just about chatbots for customers or the reduction in false positives for fraud. AI means we can gather every piece of information we have about payments that has ever existed. Every industry report, every piece of regulation, every internal email, chat and conversation about a technical implementation. With AI, we can gather it, and we can apply it to solve our biggest payment problems.



Instant payments are going to change the world. The benefits are starting to trickle through. But why are tools that we know will reduce instant payment fraud taking so long to roll out? Why don't we see earned-wage access schemes in every organisation? Why are companies still holding onto their worker's pay for a month? Why can't we choose if we get paid into a bank account, pre-paid card or wallet?

Maybe it's due to the time it takes to implement new changes to payment rails, or the complexity of interoperability and a lack of regulatory pressure. But really, it's because banks can't keep up with the rate of change. They're slow. They need a whole village to do the work of one or two people.

We ask our banks to innovate to make payments easier and faster, but we want our payments, checking accounts and online banking for free.

Pushed by regulators and clients, banks try to keep pace by offering the minimum. Some offer inbound payments without outbound payments; they comply with regulations without innovating; they move a village's worth of work abroad for cheaper labor but then struggle to maintain quality. It doesn't solve the problem.

All the while the biggest global banks accelerate away into the distance. They use their scale to develop new services at a cost even the largest US, European and Asian regional banks can't match. From a process, skill, and expertise point of view, innovation and power is being gathered by a few players who are widening an already significant gap.

But AI can help close it. With AI, we can more than double output and maintain costs, or we can more than maintain output and half costs. It's our choice.

If you don't embrace AI in the payment transformation space, you will face bigger costs and slower change than those you are competing with.

But if you leverage the billions invested in AI, use the available tools and gather industry knowledge, you have a chance to keep up with the rate of change.

What's stopping most banks? The banks themselves. Internal governance, trust and a misunderstanding of risk. By being risk-averse in areas such as AI, banks are creating existential issues for themselves further down the line. The ones that can adjust to take advantage of this opportunity will be the ones that succeed.



Large language models do not have to be tuned for speed; they can be tuned for accuracy. Documents can be checked, reviewed, and published by AI agents, and then signed off by people. Multi-agent AI models work 24/7 while the workers they are assigned to sleep and spend their time on other tasks, free from the mundanity of manual work. The workers check back in to review, approve and reassign jobs to the agents. The productivity and time benefits are enormous.

But to access the full extent of these benefits in the payments world, we need to apply AI to a very specific problem: Instant and cross-border payments. Innovation and projects are held up because banks can't get through their workload fast enough. AI can help.

Whatever your opinion of AI today, its impact may be far less than the hype in the short term, but it will be far more than you can imagine in the medium term. There is no going back.

The rate of change in payments has never been this fast and will never be this slow again. It's time to get up to speed.



02 INTRODUCTION

Artificial intelligence (AI) is revolutionising the financial industry, transforming how institutions manage risk, intercept fraud or crimes, personalise customer experiences, improve efficiencies across their operations, make investment decisions, and many more use cases which are still being developed.

Some industries have already started to embrace AI and banks can be included in that, but financial services still has room to learn from the developments of other ecosystems. At the same time, the innovation in AI is now being driven by legislation. The EU AI Act came into effect in 2024 and is the most concrete piece of legislation, but other jurisdictions are developing their own and will continue to watch how the EU progresses.

With the new possibilities AI is opening for financial services, there are new risks. Biases, model issues, cyber security, and compliance issues are among some of the hurdles which AI presents to financial institutions. Adding to this are the serious sustainability issues which AI can create for financial institutions planning to use it long term.

This report has been written in collaboration with Box, Innovate Finance, and RedCompass Labs, and contributions from Globant, the House of Lords, ING, NatWest Group, Sumsub, and Smarsh.



03 HOW AI CAN BE EMBRACED BY FINANCIAL SERVICES

While artificial intelligence (AI) is not a new concept, having been first explored by a research group in the 1950s, its widespread industrial application has only just begun.

Financial services is just one of the many sectors that is today grappling with this bourgeoning technology. How can it be seamlessly embedded into incumbent systems? What are the customer service applications? Which risks and regulations that must be heeded? These are just some of the questions financial institutions are being forced to ask, as they look to the future of AI in finance. As is often the case in highly competitive markets, the imperative is in many ways straightforward: advance and innovate or get left behind.

How should financial institutions mitigate risk around AI use?

In an exclusive interview with Finextra, Shaun Hurst, principal regulatory adviser, Smarsh, underlined that "the banking and financial services sector was quick to take up GenAI, helping to improve customer services and create efficiencies. However, emerging technologies like AI are now causing several unique challenges for banks and financial institutions, and some of the most significant relate to compliance, privacy and security."

Financial institutions that take on AI face several risks including "model risk, bias, regulatory compliance, potential reputational damage, and cybersecurity" as highlighted by Bahadir Yilmaz, chief analytics officer at ING.

Awareness of these challenges was something Graham Smith, head of data science and innovation, NatWest Group also emphasised:

"Given the role that banks play in society, it's incumbent on the industry to make sure any AI usage is managed carefully to ensure the best outcomes for customers. The first step is understanding and communicating the risks and opportunities of a particular use of AI, be it with stakeholders or customers. For us, it's important that everyone is comfortable operating within those parameters, prioritising transparency, data privacy and, ultimately, trust."



"The key to overcoming these challenges," Hurst continued, "is to have people at every level, from the C-suite to graduate new joiners, involved in its rollout and use, ensuring everyone works together to keep things secure. It's also important that tech teams have regular check-ins on how systems are performing and run timely risk assessments, paying careful attention to data quality, which means leaders need to understand and manage a vast amount of data and ensure the data is accurate for the best possible output."

Evidently, the future of AI in financial services will be accompanied by a new cohort of structures and staffers, who are mandated to monitor the entire production line: from the information AI is being fed, to the developers feeding it, and the quality of the output generated. Only then can institutions maximise return on investment and security for customers.

Taking this one step further, Isa Goksu, CTO, Globant UKI and DE, said that "financial institutions must implement comprehensive strategies that include robust governance frameworks and explicit internal policies to ensure transparency and accountability, particularly among senior managers."

"We've heard a lot about AI bias and its risks this year," he continued. "The best way to tackle AI bias, is to train models on high-quality, unbiased data and run regular audits. In high-stakes areas like credit scoring, transparency is essential to build trust. A 'human-in-the-loop' approach is key to securing that trust. It allows for human oversight over AI-driven decisions, while regulatory sandboxes let institutions test AI safely, ensuring compliance and reducing risks before full deployment."

Smith highlighted their structures, also including human supervision: "At the heart of our Code of Conduct, we ensure that AI systems are subject to human oversight, and that they respect and promote human agency; they are technically robust, resilient and safe; that the decisions or predictions produced can be explained; and that they are free from unfair bias or discrimination. We work with multi-stakeholder teams across the bank to ensure we have a robust AI risk management governance process to further embed our Code of Conduct."

Yilmaz stated that financial institutions can mitigate risks "by implementing a combination of governance, transparency and risk management practices tailored to the unique risks AI poses. By integrating a combined approach, financial institutions can foster trust in their AI systems, ensure compliance, and better manage the risks of AI-driven innovations."



Pavel Goldman-Kalaydin, head of AI & ML, Sumsub, spoke to the issues around compliance and stewardship too: "Financial institutions face increasingly stringent regulatory requirements, adding pressure to replace home-built systems with specialised, standardised platforms. Finance firms need to onboard new users swiftly and securely, perform anti-money laundering screening on customers, verify business clients, and monitor for fraud and suspicious transactions. We look to support finance firms with these, providing the option to adopt and manage all features through a single AI-powered platform."

Goldman-Kalaydin added that in one **recent case**, a UK businessman and Revolut user lost £165,000 to fraud, when scammers bypassed security measures and gained access to his business account. Hundreds of transactions were authorised in just an hour.

"Avoiding common fraud schemes requires vigilance and awareness from individuals too," he said. "They must be cautious with unsolicited payment requests, verify the legitimacy of invoices or purchase requests, and remain mindful of sharing personal or financial information so easily."

Clearly, the future of holistic fraud prevention means co-operation between every stakeholder in the value chain. This is an approach

Turning to the tools that are available to financial players, Goldman-Kalaydin underlined that AI works both ways when it comes to financial crime: "While fraudsters use it to create deepfakes and manipulate unsuspecting victims, financial institutions can also harness AI to combat these threats. Regarding businesses, recent data revealed a **fourfold global increase** in deepfake fraud cases globally, highlighting the need for more robust fraud prevention measures. The key is to stay one step ahead of fraudsters by adopting AIdriven solutions that can detect anomalies in user behaviour and identify fraud patterns as they emerge. As the financial industry becomes increasingly digital, the threat landscape will continue to evolve. A reactive approach to fraud is no longer sufficient; financial institutions must proactively monitor and defend against emerging threats."

Can financial institutions learn from other industries that have embraced AI?

Some sectors have embraced these AI-powered tools more than others. Along with financial services, the automotive and healthcare industries have displayed considerable appetite. Hurst argued that these use cases "have largely focused on improving customer service." However, he stressed that there are more "lessons to be learned across industries."



"One important example of this is in the healthcare sector," he said. "Some healthcare providers have leveraged AI for predictive analytics, allowing them to make personalised medicines to improve and speed up patient outcomes. The financial sector has largely focused its AI efforts on improving customer services, but the predictive ability provides more tailored and personalised customer recommendations, at a more rapid pace, to elevate offerings."

Goldman-Kalaydin agreed, noting that financial services should leverage insights from sectors where AI is integral to innovation and risk management. "In fintech, AI-driven personalisation has set new standards for customer support and experience, by tailoring financial products to individual needs," he said. "The crypto industry uses AI for real-time transaction analysis, helping to monitor for suspicious payments and prevent fraud on decentralised platforms. Similarly, iGaming uses AI to detect risky behaviours and ensure responsible gaming, an approach that could benefit financial services in identifying suspicious patterns. Adapting these industry practices can help financial institutions enhance security, efficiency, and customer engagement."

Lord Christopher Holmes, Baron Holmes of Richmond, advised

"looking across other industries, other markets, other economies and societies to gain the greatest real time insights and assess their applicability for their own customers, colleagues and organisations."

As the world of finance looks to the horizon for the next iteration of AI, or a new application to drive security, it may also benefit from a brief glance to the side – to see how other industries are putting this fledgling technology to use.



04 WHICH ARE THE MOST IMPACTFUL AI USE CASES FOR FINANCIAL SERVICES?

Artificial intelligence (AI) has quickly gone from being a far sighted fantasy to integral to the running of many industries, including financial services.

Yet, for this to be a sustainable development, there needs to be some resistance to the large amounts of hype around AI.

Firstly we're going to look at the best approaches for banks to investigate which use cases work best for them, before seeing which use cases were highlighted by contributors as some of the key use cases they are seeing.

Al use cases: slow and steady wins the race

With the popularity of AI growing, many financial institutions will be feeling pressure to dive head first. However, before going gung ho, banks may want to consider exploring which use cases will give them the best value and usage.

Bahadir Yilmaz, chief analytics officer, ING, emphasised the use of a "structured approach" for financial institutions investigating and identifying AI use cases. He further added that this approach should align with "risk and regulatory constraints and prioritise ethics."

Other banks we spoke with shared this view for a coordinated method to internal research. Graham Smith, head of data science and innovation, NatWest Group, said: "Taking use cases from pilot to product requires the right skills, processes and governance to have the greatest impact."

Smith described NatWest's bank wide programmes investigating their best use of AI to help their "customers, stakeholders and businesses thrive", and an exercise in 2023 established 100 potential use cases, which they narrowed down based on priority.



From ING's side, Yilmaz stressed the safety and security of AI uses, he said:

"AI models based on personal data should be free from bias, explainable, transparent, responsible, and always based on consent. Data should not be used beyond its purpose and therefore, clear regulation regarding data retention is key. There is no concrete, ubiquitous regulation yet on how AI models should work. However, financial institutions have a duty and responsibility to set their own model ethics framework."

Yilmaz explained that ING have a 20-step process to evaluate every AI system for 140 risks, and only after that would they be allowed to go into production. He added: "Applying GenAI in one business problem is only 5% of the job, the other 95% starts after that when you are building all the systems around it to make it safe, secure and non-biased."

A challenge for some financial institutions is not to get wrapped up in the hype, Pavel Goldman-Kalaydin, head of AI and ML, Sumsub warned against jumping on the latest AI trends: "By starting with specific pain points and aligning AI with these core objectives, they'll avoid the trap of chasing tech for tech's sake and instead create real value."

Isa Goksu, CTO Globant UKI and DE, gave practical advice on how to approach investigating AI in financial services, starting with "comprehensive assessments to map current AI usage." He continued: "Establishing and investing in governance and risk management frameworks tailored to AI is key; if you don't have clear guidelines on responsible use right from the start, you'll struggle to implement effectively further down the line."

However, contrary to this slower pace, Shaun Hurst, principal regulatory adviser at Smarsh, stated: "Financial firms could adopt a faster approach to building and testing new ideas."

Hurst did emphasise balancing this with "strict security protocols" and added: "The best approach would be to bring different people together who understand banking and those who understand tech."

Mirroring Hurst's point, Goldman-Kalaydin also pointed to creating a "crossfunctional" team: "AI projects don't just need data scientists and engineers; they need people who understand the business deeply, like compliance officers, risk managers, and customer service leaders. This combination helps ensure AI solutions are grounded in the institution's real-world needs and operational realities."



From ING's experience, Yilmaz advised:

"Financial Institutions should also launch pilot programmes and start small with prototypes to test AI solutions before full deployment."

This was something also suggested by Goldman-Kalaydin, who said starting small with pilot programmes can save on making "huge, resource-heavy investments right from the start."

Goldman-Kalaydin additionally emphasised the importance of data quality and governance, he added: "AI can't deliver on its potential with poorquality data. In finance, this isn't just about getting better results but rather about avoiding costly errors and regulatory pitfalls. Strong data governance practices, along with clear policies on data privacy and security are crucial."

With all of this in mind, financial institutions should be looking at taking a structured approach to their AI investigations, which takes a census of their current usage and pain points. Here are some of the key use cases with interviewees proposed.

Al to fight financial crime

Lord Christopher Holmes, Baron Holmes of Richmond, highlighted fraud detection and prevention as a use case to focus on, he said:

"There is no question, we are living in an epidemic of fraud right now. AI, in combination with other technologies, always human led, offers the best opportunity to address this desperate challenge."

Fraud has seen some increases, with the Office of National Statistics (ONS) **reporting** a 19% increase in consumer and retail fraud incidents in 2024 from 2023 in the UK. Adding to this pressure for banks is an increased number real time payments and the large amounts of real time data.

Hurst observed that some financial institutions are already "leveraging AI to prevent fraud, pre-empt cyber-attacks and navigate the complex regulatory environment."

He added that AI has the ability to analyse "vast amounts of real-time data to identify suspicious patterns, prevent fraudulent activities and detect emerging cyber threats."

Given the increasing pressure to tackle financial crime, the preventative use cases of AI are something which Goldman-Kalaydin noted. He said: "Traditional fraud prevention methods often led to frustrating false alarms,



flagging legitimate transactions as suspicious. Now, with AI learning each user's unique behaviours, the system becomes almost personal—tailoring itself to individual transaction habits. This personalisation means fewer false positives and a much smoother customer experience. It's a win-win: customers experience fewer interruptions, and banks spend less time on unnecessary investigations."

Adding to this, Goldman-Kalaydin discussed natural language processing (NLP) and its abilities in behavioural analysis, he said: "This is particularly valuable as fraudsters become more sophisticated in their communication tactics."

Goldman-Kalaydin also pointed to AI's ability to uncover fraud networks: "This goes beyond catching an isolated fraudster; it's about revealing the complex networks behind large-scale fraud. Graph analytics is a powerful tool here, mapping out relationships and spotting hidden connections that could indicate collusion. It's remarkable to think of AI systems piecing together these intricate webs, flagging fraud on a scale that would be nearly impossible for humans to uncover alone."

Overall a benefit for fraud detection and prevention teams is increasing efficiency, as Hurst said: "It also helps legal, risk and compliance teams stay ahead of regulatory changes and review requirements."

Al improving efficiency internally and externally

Fraud teams are not the only area where AI can improve efficiency, Goksu claimed we will be seeing more agentic AI workflows soon, a kind of AI which can independently make decisions. He explained: "AI is transforming the lending process by automating credit scoring and loan approvals, increasing efficiency and reducing approval times."

For Goksu, AI could provide greater front end efficiencies, especially in the area of credit checks:

"In the next five-10 years, credit risk analysis will fundamentally change as AI-augmented services transform social engagement models across industries. This shift will allow financial institutions to leverage a broader spectrum of data, including social behaviours and interactions, providing a much more comprehensive and accurate assessment of creditworthiness."

Smith said that from their use of AI they are seeing an increase in their "efficiency, productivity, and overall colleague satisfaction."



He reported that they are saving 15 minutes per call on in their private bank because "relationship managers have been using call summarisation tools with their clients to capture details, summarise the call and extract key facts, which gives the relationship manager greater freedom to focus on the customer during the call."

However, Smith also argued that the internal efficiencies offered by AI is something they are focusing on as they "become a simpler and more efficient bank."

He elaborated: "We've equipped our HR colleagues with AI tools as they support colleagues across the bank with their everyday HR queries. 'Ask Archie', our 24/7 AI chatbot for HR queries, now uses Gen AI to simplify colleague experiences, creating better, more natural conversations. This in turn enables colleagues to access information quicker, whilst our human agents can spend more time working on more complex support cases."

Hurst also pointed to AI's use for efficiency in internal sustainability teams, who are required to report on which investments are green and a breakdown of what type of green investment their loan falls into. He explained: "The amount of data required for this is vast, but AI can process large amounts of data at a rapid pace, which will help financial institutions to classify their green investments and make more informed decisions around sustainability."

Customer interactions and personalisation

Efficiency as a bank can be greatly impactful in improving customer interactions, as Hurst explained: "Improving customer experience remains a key AI use case in financial services, with conversational AI being introduced to simulate human interaction."

Building on these improved customer interactions is the ability for personalisation. Smith stated:

"AI will enable levels of personalised engagement like we've never seen before, empowering us to predict customer needs whilst delivering simpler and more engaging interactions with customers."

Goksu posited the potential of AI for personalisation in the next era: "Banking products in the next era will be completely driven by AI and they will be hyper personalised. It also enables precise, tailored financial planning, aligning with clients' unique financial goals."



Smith gave the example of their AI-powered chatbot Cora, which has generative AI integrated: "Since the launch of that pilot in June, we've seen a 150% increase in customer satisfaction, and a halving in the number of cases requiring colleagues to intervene."

Robo-advisors and automated trading systems were another area Hurst saw as ripe for AI, giving both efficiency and personalisation, however, he warned: "These applications require robust oversight and risk management frameworks given their potential impact on market stability and individual portfolios."

As well as enabling personalisation, Smith spoke to the overall strength of the banking industry in leveraging AI, as it "has both huge amounts of data and the ongoing need to evolve its customer proposition, and so the opportunities for AI to enhance service levels and efficiencies is perhaps more significant than a lot of other sectors."

Moving forward with AI use cases

"Ultimately, exploring any new use case needs to align with a bank's strategic goals, so for us we're looking at how AI can simplify how we operate, become more efficient and effective, and make it easier for customers to deal with us," commented Smith.

Many financial institutions are seeing common themes in AI use cases which could be beneficial across the industry. Banks should maintain a balanced and careful exploration of which work best for them and their pain points.



05 WHAT IS THE GLOBAL AI LEGISLATIVE OUTLOOK?

The EU AI Act made history as the world's first AI legislation when it entered into force in August 2024. We have now entered a 24-month transitional period during which delegated legislation, guidelines, and standards are being drafted and published across all EU member states. The regulatory framework is designed to identify varying levels of risk, address high-risk areas and define obligations for the deployment of high-risk AI systems.

"The EU AI Act represents a genuinely pioneering effort to regulate AI across all industries globally, establishing a risk-based classification, where high-risk systems like insurance and credit scoring face stringent regulations on data quality, documentation, human oversight, and transparency," commented Isa Goksu, CTO of Globant UKI and DE. "It's one to watch for any company operating within the EU."

Lord Christopher Holmes, Baron Holmes of Richmond, added: "The EU AI Act is certainly the chunkiest piece of legislation currently. It is highly prescriptive and will need to be understood by all UK firms with an interest in or connection to the EU. It is also very much worth looking at the pieces of AI legislation passed in China and the work of the HKMA in this respect."

While the EU may be the first to officially put AI regulation into force, the drive towards legislation is not unique. Other legislative and regulating bodies, e.g., in the US or the UK, are similarly drafting pieces of AI regulation. Pavel Goldman-Kalaydin, head of AI & ML at Sumsub, emphasised: "The US already faces something similar, with state-level AI regulatory initiative being much more active than anything seen on the federal level. The degree to which all these state legislations will be cohesive with themselves, and with anything that will come from the federal government, is yet to be seen."

Shaun Hurst, principal regulatory adviser at Smarsh, elaborated: "In the UK, the government is working on an approach to balancing innovation with proper oversight. Additionally, the US issues strong guidelines through its Executive Order on the Safe, Secure & Trustworthy Development and Use of AI, while also launching a dedicated institute for studying safety issues.



"The most significant aspect of these varying regulatory developments is how each of them is attempting to tackle different priorities, from protecting everyday users to making sure advanced systems stay reliable and fair," Hurst continues. "Ultimately, the real challenge for banks and financial institutions will be getting everyone at an international level on board and on the same page, since technology doesn't care about borders."

UK AI legislation

Looking towards the UK, **White & Case's AI Watch** wrote that the "government's AI Regulation White Paper of August 3, 2023 and its written response of February 6, 2024 to the feedback it received as part of its consultation on the White Paper both indicate that the UK does not intend to enact horizontal AI regulation in the near future. Instead, the White Paper and the Response support a 'principles-based framework' for existing sector-specific regulators to interpret and apply to the development and use of AI within their domains."

In light of this approach, the FCA has outlined a 12 month plan which includes collaboration with other members of the Digital Regulation Cooperation Forum (DRCF) to deliver a pilot AI and Digital Hub, as well as additionally running its own Digital Sandbox and Regulatory Sandbox.

In an **update to the regulator's AI approach**, Jessica Rusu, chief data, information and intelligence officer at the FCA, wrote: "The Government's principles-based, sector-led approach to AI is welcome; the FCA is a technologyagnostic, principles-based and outcomes-focused regulator. We are focused on how firms can safely and responsibly adopt the technology as well as understanding what impact AI innovations are having on consumers and markets. This includes close scrutiny of the systems and processes firms have in place to ensure our regulatory expectations are met."

Lord Holmes also submitted an AI bill, he told Finextra: "My hope is that I will make some more progress with my AI Regulation Bill. In opposition, Labour were supportive and positive about the Bill, its clauses, and its principles. Currently, they are not looking to legislate, save for a specific narrow AI safety Bill. I believe it is crucial that we take the opportunity of our common law legal system, our tech and FS ecosystem and pass economy wide, society wide AI legislation: for the benefit of citizen, consumer, innovator and for inward investment."



US AI legislation

The Biden-Harris administration released an **executive order** in October 2023 to secure the development and application of AI. Marking the country's most comprehensive effort on AI regulation to date, the executive order aimed at establishing the United States as a leader in safe, ethical, and responsible AI use.

In October 2024, marking one year after issuing the executive order, the **White House** released an update on landmark achievements over the past 12 months. The update announced that the federal agencies have completed all actions on schedule, including:

- The launch of a new Task Force on AI Datacenter Infrastructure.
- The establishment of the AI Safety and Security Board (AISSB) to advise the Secretary of Homeland Security on the safe and secure use of AI in critical infrastructure.
- Releasing a **Department of Treasury report** on managing security risks of AI use in the financial sector.

Additionally, the blueprint for an **AI Bill of Rights** outlines guidance around equitable access and use of AI systems and "provides five principles and associated practices to help guide the design, use and deployment of 'automated systems', algorithmic discrimination and protection; data privacy; notice and explanation; and human alternatives, consideration and fallbacks," writes **White & Case**.

In light of the election results of November 2024 and the exchange of power in January 2025, it is still to be seen how these efforts will be continued and how AI will be tackled by the Trump administration.

Country/Authority	Framework
G7	Hiroshima AI Process Comprehensive Policy Framework
European Union	• EU AI Act
Council of Europe	The AI Convention
United Kingdom	• A pro-innovation approach to AI regulation (report)
United States	 Executive Order on the Safe, Secure & Trustworthy Development and Use of AI AI Bill of Rights
Canada	Artificial Intelligence and Data Act (AIDA)
Brazil	Bill No. 2,338/2023 (Brazil's Proposed Al Regulation)
China	The Al Measures



Country/Authority	Framework
Japan	• Al Guidelines for Business Version 1.0
Saudi Arabia	Al Ethics Principles
Singapore	 The Model AI Governance Framework AI Verify The National Artificial Intelligence Strategy 2.0
South Africa	Draft National AI Strategy
South Korea	Act on Promotion of the AI Industry and Framework for Establishing Trustworthy AI
Taiwan	Taiwan Artificial Intelligence Action Plan 2.0
United Arab Emirates	The AI Adoption Guideline in Government Services

Striking a balance between innovation and security

Regulating the AI space is a challenge exemplary of the current digital age. Hurst explained the predicament well: "Regulators face a daunting task; AI is developing faster than rules and policies can keep up with, and they need to focus on protecting customers while allowing companies to innovate. In response, financial institutions should set up testing grounds, often referred to as a sandbox, where they can safely experiment with new features and ideas under proper supervision. One good example of this is the FCA's AI Lab, part of its Innovation Services which supports companies in developing new AI models and solutions."

Yet while regulation can be perceived as a big challenge for companies, it is necessary in order to safely develop. A switch in mindset is necessary for organisations to embrace the potential that doesn't just lie in AI, but also in its regulation.

"Companies have a role to play in this dynamic too," Goldman-Kalaydin emphasised. "Even though implementing the EU AI Act, or any other AI-related standard, requires extensive compliance resources, companies should shift their mindset from perceiving these compliance efforts as purely 'costs', but instead as something that can work in their favour. In the future, the successful company is the one who does not antagonise AI best practices and understands that having safe, trustworthy AI, is in reality a competitive advantage."



For Lord Holmes the balance between innovation and security is "mission for all legislators and regulators, it is essential and it is entirely achievable." He continued: "We all know bad regulation, that doesn't for a moment mean that regulation is bad, that's just bad regulation. It is crucial to hold the needs, the aspirations of citizens and consumers, innovators and investors simultaneously, that there is a chance to enable optimum outcomes. This requires taking a principles based approach. To those principles: trust and transparency, inclusion and innovation, assurance, accountability, and accessibility."

In Europe, we have seen that the EU AI Act is designed to ensure accountability and auditability of AI systems for fairness, accuracy, and compliance with privacy regulations, but it is simultaneously driving interest in AI systems now that there are frameworks in place. A **SAP Concur survey** found that 51% of CFOs are investing in AI in 2024 compared with only 15% in August 2023.



Source: SAP Concur

The reality is that a legal framework gives companies that might be hesitant to embrace AI the needed guidance to confidently and securely deploy this technology. Looking towards the global regulatory landscape, it seems that a risk-based approach is the best way forward.

Imposing strict compliance requirements for high-risk applications and require assessment before being put on the market as well as throughout their lifecycle, while paving the way for less risky technologies to more flexibility and freely develop will encourage healthy – and more importantly, safe – AI innovation.



06 HOW CAN AI BECOME MORE SUSTAINABLE?

Artificial intelligence (AI) has become a hot topic in the past year, and it is set to skyrocket in usage in the coming years. Every financial organisation is racing to implement AI technology into their services, and every business and social media network is priming for AI integration.

While the reception of AI intruding into every aspect of people's lives is somewhat a mixed bag, there is no denying that it is here, and it is everywhere. From ChatGPT to Google's Gemini all the way back to Apple's Siri, AI is a pervasive and unstoppable force.

What is another unstoppable force? The inevitable and destructive march towards climate catastrophe. While AI provides us with the tools to make business operations more sustainable, the technology itself is a blackhole for energy and power. What solutions are in play to combat AI's sustainable flaws while still leveraging its potential to change the world?

Monitoring and transparency are key in developing AI systems

In the past few years, greenwashing and greenhushing have been obstacles to the sustainable transition in the financial and banking sector. While there are still major banking giants that continue to neglect the sustainable outcomes of their operations (**BlackRock**), the Paris Agreement and UN's Sustainable Development Goals have seen numerous financial institutions embrace green policies and net zero initiatives that encourage transparency.

For transparency to be measured, there needs to be a standardisation of transparency frameworks designed specifically for AI technology. While there are currently frameworks in place and measurements, AI is a whole new game, and will require its own set of rules.

Isa Goksu, CTO, UKI and DE, at Globant, stated that API usage needs to be monitored at a closer scale within organisations to ensure transparency in AI. Goksu furthered: "By systematically tracking how APIs are used, organisations gain insight into usage patterns, data flow, and potential compliance issues. This transparency ensures resource utilisation is aligned with organisational policies and objectives while identifying any unauthorised or excessive use of APIs."



Pavel Goldman-Kalaydin, head of AI & ML at Sumsub, emphasised that businesses must be mindful of internal AI processes that may include bias, and should be cautious of the data they use for training AI systems.

Goldman-Kalaydin explained: "For instance, on the topic of inclusivity, AI can project gender or racial biases based on existing stereotypes. Businesses can consider measures such as diverse dataset curation and algorithmic fairness testing, ensuring that their AI-driven CX strategies are not perpetuating harmful stereotypes or excluding certain demographic groups."

Bahadir Yilmaz, chief analytics officer at ING, added: "To ensure transparency and accountability as AI grows, companies should adopt a comprehensive approach focusing on explainability, auditing, thorough documentation, ethical oversight, traceability and transparency. These steps would help align AI growth with societal values and safeguard individual rights."

Solving the AI energy problem

To make AI more sustainable, we must look for solutions to the energy problem. According to the **International Energy Agency** (IEA), datacentres used 1.65 billion gigajoules of electricity, which is about 2% of the global demand. This can only increase as AI usage continues to grow. The IEA estimates that by 2026, AI energy consumption will increase between 35% and 128%.

According to the **World Economic Forum**, GenAI systems use 33 times more energy to complete a task than a task-specific software. The Forum estimates that the electricity consumption of datacentres will increase exponentially over the next couple of years, as seen in the figure below.





The AI-energy issue is further detailed in the Finextra long read: **AI is eating up our energy** – **how will sustainable ambitions survive?**

UK Lord Chris Holmes stated that "AI has the ability to optimise its own operations and make those real-time adjustments." He indicated that AI can be used to make itself more sustainable, and that looking to renewable energy can be the solution to source this technology.

Shaun Hurst, principal regulatory adviser at Smarsh, commented: "The most important approach firms should follow is smart planning. Leaders can identify how best to manage data centres, cool systems and share computing power, and, as a result, this can help organisations to run AI efficiently, cut their energy bills and ensure more sustainable use of their technologies. Importantly, cloud computing has proven to be very effective for achieving this, due to its flexibility and reduced environmental impact."

Goksu also emphasised the role of cloud computing for preventing energy wastage and providing a flexible and scalable infrastructure, "Federated learning also emerges as a promising field, training AI models on decentralised data, thus minimising the energy, network load, and storage traditionally required for central data aggregation."

He continued that as AI develops, it will update along with optimised algorithms that will optimise power usage and lower energy consumption but streamlining data processing.

Yilmaz further detailed what strategies could be utilised to lower AI energy consumption: "It is crucial that AI is environmentally and economically viable in the long run. To improve AI efficiency and sustainability, tactics like model optimisation, efficient algorithms, edge computing, energy efficient hardware, renewable energy could be used to reduce energy consumption and thus environmental impact. Additionally, fostering trust is crucial for the long-term adoption of AI."

Hurst elaborated: "Another important tactic is simply getting the basics right. Think of this as keeping your digital house in order. Clean data, relating to accurate, complete and consistent data; using the right sized tools; and having regular check-ins to identify any waste are all key. It's like servicing your car; regular maintenance keeps things running smoothly and efficiently for the long haul."

Regulation keeping AI in check

In Europe and the UK there are several regulations in place that will drive AI towards being more transparent, and therefore more sustainable. The EU AI Act is currently a major player, which was enacted by EU parliament earlier this year, addresses significant risks that AI brings to the market as well as checks on transparency and innovation guidelines.



Goldman-Kalaydin stated: "Companies need to be pragmatic. AI governance does not mean governing all AI systems. Be proportionate, pragmatic and risk based. Focus on what truly matters. For example, despite the hype around the EU AI Act, the reality is that most companies will not even be subjected to it, much less to its heaviest regulatory requirements. In that sense, getting to know your AI technologies, their level of risk, and the regulations that are applicable to the geographies and/or markets your company operates in, is usually a first good step to kick off your journey towards more trustworthiness in AI.

"For fintech companies, regulation is not necessarily a barrier but a familiar landscape. Having long operated within stringent financial compliance frameworks, fintechs should be well-equipped to adapt to new AI regulations, viewing them as a natural extension of established practices in data protection and transaction security."

Goldman-Kalaydin furthered that AI legislation should have detailed requirements for safety and testing, and deepfake detection such as mandatory watermarking to avoid the further spread of AI fraud and misinformation. They continued that stakeholders, policymakers, and regulators must collaborate to combat AI fraud and create a strong regulatory framework.

Lord Holmes commented according to **the AI Bill** that he proposed in the UK parliament, stating: "In many ways, deploying AI solves for AI. Also, I propose in my Bill that every business which develops, deploys, or uses AI has an AI responsible officer. For this, don't think burdensome bureaucratic overcompliance, think role rather than individual, all underpinned by a proportionality principle."

Where do we go from here?

AI is still too new, and it is being applied too much everywhere. The consumer does not want AI in every aspect of their experience online, they want more efficiency, faster speed, and more accuracy and AI can help implement that. However, it is important to note that AI is not the end-all, be-all of everything new when it comes to technological innovation.

Moving forward, both governments and businesses need to be more proactive about controlling the fallout of AI technologies, including AI-driven misinformation and energy wastage from AI usage.



07 HOW AI IS TRANSFORMING FINANCIAL SERVICES WITH METADATA EXTRACTION



Perry Rotella Managing Director, Financial Services, Box

Throughout my career, I have witnessed several significant fintech advancements. However, none have been as groundbreaking as the current artificial intelligence (AI) revolution and its impact on managing unstructured data. This is much more than just another tech trend – it redefines how businesses handle information across financial services.

The unstructured data challenge

Organisations within financial services are drowning in unstructured data, in fact, **according to the IDC**,

90% of an organisation's data is unstructured. Prospectuses, loan applications, policy documents, financial planning reports, and transaction records all contain insights, yet their value remains largely untapped. Since this information is dispersed across various systems and file formats, it becomes incredibly challenging to analyse and leverage effectively.

The consequences of data fragmentation are significant. It hampers risk assessment accuracy, impedes regulatory compliance efforts, presents a risk to both security and privacy, and critically hinders the development of innovative financial products tailored to market demands. The question then becomes – How can financial institutions transform this unstructured data into strategic gold?

The catalyst for data-driven transformation

Integrating generative AI and large language models (LLMs) into an intelligent content management platform offers a compelling solution. By leveraging advanced natural language processing and machine learning techniques, AI can decode unstructured data, extract metadata, and deliver precise insights quickly.



In risk management, AI-driven analyses of unstructured data can uncover nuanced risk indicators often missed by traditional methods, enabling more robust risk assessment. This streamlined approach allows businesses to make more informed decisions. AI can significantly enhance compliance monitoring through the automated processing of regulatory documents. The result is reduced costs and minimised regulatory exposure.

Finally, the greatest value comes from AI-powered automation, which significantly improves operational efficiency, reduces costs and enhances accuracy and speed. This efficiency empowers businesses to strategically allocate resources, prioritising high-value activities and customer relationships.

The implications of these capabilities are profound. Financial institutions that successfully deploy AI to unlock the value of their unstructured data will optimise their operations, provide a frictionless customer experience, and gain a significant competitive edge in a data-driven market.

A competitive edge

The impact of AI on unstructured data is much more than an incremental improvement – it is making organisations rethink how they operate. The industry is moving away from the view that data management is a potential bottleneck, with AI now emerging as the catalyst for data-driven innovation, efficiency, and customer experience. It's a streamlined approach that provides a competitive edge.

Imagine being able to instantly extract key information from thousands of loan applications, predict market trends with unprecedented accuracy, or identify fraudulent activity before it escalates. This isn't science fiction — it's a new reality that advanced AI tools are beginning to deliver.

More than half of CEOs within financial services acknowledge that AI will create a competitive advantage, highlighting its growth in the industry's strategic planning. The message is clear: embracing this technology is key to staying ahead and unlocking new opportunities for growth and innovation.

Supporting the human element

While the technical capabilities of AI are impressive, its real value lies in how it supports financial professionals.

By introducing AI into workflows, businesses can dramatically reduce the time spent on repetitive, data-intensive tasks. This allows valuable human resources to focus on what they do best: building relationships, providing expert advice, and making decisions that require emotional intelligence and industry expertise.



In wealth management, AI can quickly analyse market trends, client portfolios, and risk factors, providing advisors with comprehensive insights. This empowers advisors to better understand their clients' unique needs and goals and build deeper, more trusting relationships. Instead of being preoccupied with data, advisors can focus on meaningful conversations, leading to better client outcomes and increased satisfaction.

In lending, AI can handle the initial stages of loan application processing, freeing loan officers to focus on complex cases requiring human judgement. This speeds up the overall process and allows for a more personalised service in challenging situations, leading to better risk assessment and customer experience. Similarly, in banking, AI-powered virtual data rooms (VDRs) can streamline due diligence by providing insights across complex financial statements, operational documents, employee records, and technology throughout the lifecycle of a deal – reducing costs, time, and the risks associated with complex transactions.

The insurance sector similarly benefits. With AI handling routine claims and policy analyses, agents can dedicate more time to complex claims, customer education, and developing tailored insurance solutions. A human touch, supported by AI-driven insights, can significantly enhance a customer's loyalty and trust.

By adopting AI, financial institutions aren't replacing their workforce - they're making it smarter and accelerating business.



08 INNOVATE FINANCE THE FUTURE OF AL IN FINANCIAL SERVICES



Roberto Napolitano CMO, Innovate Finance

Artificial intelligence (AI) is reshaping industries worldwide, and financial services are no exception. Businesses are recognising that embracing AI is essential to remain competitive, from improving customer service through personalisation to leveraging synthetic data for more accurate forecasting, the potential benefits of AI in FinTech and financial services are many. However, challenges such as navigating

legislative frameworks and addressing sustainability concerns remain critical to the future of AI. Here are some thoughts on AI adoption as we approach 2025.

Embracing AI

The cautious approach by businesses toward AI is understandable given the regulatory complexities and risks. As AI evolves, so too the associated risks, including concerns around data privacy, ethical use and algorithm biases. Also the lack of a uniform global legislation means that many firms are waiting for clearer guidelines before fully embracing AI.

Yet, the need to adopt AI is becoming apparent. Firms not investing in AI might risk being left behind by competitors who harness AI to create smarter, more efficient, and personalised processes and customer experiences.

For businesses seeking to adopt AI, some strategies can facilitate a smoother transition. Companies can start by implementing AI in lower-stakes areas, such as customer service or internal process automation, allowing them to gain experience with AI while minimising risks. Another approach is forming partnerships with AI-focused technology firms that specialise in financial services, enabling firms to benefit from outside expertise.



Al use cases

The applications of AI in financial services are rapidly expanding, and as new technologies develop, their potential impact grows. Here are some thoughts on AI applications as we move toward 2025.

Personalisation: By leveraging AI algorithms to analyse customer data, firms can tailor their offerings to customers, improving satisfaction and loyalty. Personalised investment recommendations and product suggestions are examples of how AI can create more value for clients.

Chatbots: AI-powered chatbots are becoming more sophisticated, handling a broader range of customer queries and interactions. By using natural language processing, chatbots can answer questions, provide account information, and even help with transactions. Enhanced chatbots reduce operational costs while providing customer support 24/7.

Fraud Detection: AI can improve risk assessment and fraud detection. Machine learning algorithms can quickly identify unusual consumer behavioural patterns that may be an indication of fraudulent activities; and risk models can provide real-time insights into credit risk, important for protecting customers and businesses, creating a more secure financial environment.

Legislative outlook

Regulation is an important factor for AI adoption. The European Union (EU) for example is establishing frameworks to ensure responsible AI use with the AI Act.

As more countries explore AI legislation, a global regulatory landscape will likely take shape. In the US, discussions around AI regulation are on privacy, ethics, and national security while China has been proactive in establishing AI guidelines that align with its tech-driven economic strategy. By 2025, we may see a more harmonised approach, with common standards emerging across borders to support both innovation and security.

Striking the right balance between promoting innovation and ensuring safety is essential. Restrictive regulations could stifle AI's potential, while insufficient oversight could expose consumers and businesses to risks. It is important for organisations operating in the financial services sector to stay abreast of legislative developments, adapting AI strategies to meet both local and international compliance requirements.



Sustainability and AI

What's the environmental impact of AI adoption? The energy requirements for data centres, training AI models, and cooling facilities are significant, as some studies highlight, including the recent report by Vested Impact, Innovate Finance in partnership with Accenture titled **"The UK FinTech Impact Report 2024**".

Recent revelations around the environmental footprint of AI models such as ChatGPT have sparked renewed focus on sustainability. Adopting more energyefficient algorithms, optimising data centres, and utilising renewable energy sources can all help mitigate AI's environmental impact.

Going forward, financial services companies should consider sustainability as an integral part of their AI strategies and prioritising environmental, social, and governance (ESG) criteria in their AI practices could be a competitive differentiator.

Final thoughts

The future of AI can both be promising and challenging. While the sector's cautious approach is understandable, embracing AI is important to keep pace with technological advancements and customer expectations. Emerging AI use cases, evolving regulations, sustainability efforts, and innovations will all play crucial roles in shaping the industry's trajectory.

As we approach 2025, businesses adopting AI responsibly, investing in sustainable practices, and staying ahead of legislative changes will be best positioned to thrive in the wave of digital transformation. The journey may be complex, but the potential rewards make it worth undertaking.



09 ABOUT FINEXTRA RESEARCH

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