CAN AI BE A GAME CHANGER FOR BANKING AND INSURANCE?

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From "Traditional AI" to "Generative AI": Implications for the insurance sector

The launch of ChatGPT in November 2022 marked a significant shift in the field of artificial intelligence (AI), changing the way businesses use AI today. While the underlying deep learning technology is not fundamentally new - for example, so-called "deep fakes" have been circulating online for several years - the new models have an unprecedented ability to process and respond to human queries and generate content such as text, images or video.

Insurance companies in Europe have been using AI for several years. EIOPA's 2024 Digitalisation report found that 50% of non-life insurers and 24% of life insurers were already using AI in various areas of the insurance value chain, including pricing and underwriting, fraud detection or claims management.

Most of these use cases were based on "traditional AI systems," supervised machine learning technology, where the AI algorithm is trained on pre-labelled data to generate outputs such as predictions or scores. Drawing on their experience using mathematical models, insurance companies have developed robust governance and model risk management techniques around the use of these AI systems.

However, the commoditisation of Generative AI tools has lowered the barriers to entry for AI adoption and opened the door to a wide range of new use cases in insurance, from developing customised contracts and terms and conditions, to streamlining regulatory reporting and compliance documentation, to extracting information from various unstructured data sources.

Generative AI use cases may have varied levels of automation: they may be used as an augmentative tool in back-office operations, requiring human input/prompts for content generation, or as semi-autonomous "Gen AI assistants", where the tool generates full outputs such as a contract or a "next best action" recommendation, that still require human validation. In the future we would expect to see more autonomous "Agentic AI" applications deployed with no or minimal human intervention, for example by replacing existing chatbots with limited functionality.

Rapid technological developments such as Generative AI require an agile and flexible approach from both insurance companies and supervisors alike.

Insurance companies need to update their governance and risk management frameworks to take into account the unique characteristics of these new tools. For example, the adoption of Generative AI may increase their reliance on a reduced number of third-party service providers. In addition, commonly used data management controls and accountability techniques may need to be re-evaluated to prevent inaccurate or biased results, while maintaining a holistic perspective on all deployed systems and their collective impact.

From a regulatory perspective, it is important to address the risks posed by AI systems while ensuring that stakeholders can reap the benefits. In the EU, the AI Act takes a risk-based approach, classifying AI systems by their risk levels. It recognizes that third party service providers share accountability for ensuring AI systems are deployed responsibly in Europe, especially general-purpose AI systems like Generative AI.

The European Commission's AI Office recently provided guidance on the definition of AI systems. This guidance references mathematical optimization methods and traditional statistical models. It also clarifies that simple models performing only basic data processing are excluded from the scope of the AI Act. These clarifications suggest that the impact of the AI Act on the insurance sector may be more proportionate and targeted than originally anticipated. It is important to note that in insurance the AI Act only considers as high-risk pricing and risks assessments in life and health insurance, while the insurance sectoral legislation continues to apply, whether these systems are considered AI or not.

Generative AI offers new opportunities in insurance – governance must keep up.

In view of AI systems that did not exist or were not widely used at the time the sectoral legislation was adopted, EIOPA has recently launched a public consultation on an Opinion on AI governance and risk management. The Opinion sets out high-level principles that supervisors expect firms to develop to ensure the responsible use of AI systems. It highlights risk-based and proportionality considerations in its approach. The principles-based nature of the Opinion ensures sufficient flexibility to adapt to new developments in this area. The Opinion explicitly excludes from its scope prohibited AI practices and AI systems considered as high risk under the AI Act, while staying close to the guidance provided under the AI Act in order to maintain a harmonised approach without overlap.

As digitalisation is a global phenomenon and efforts to harness its potential and mitigate the risks need to be coordinated at the international level, EIOPA is playing an active role in promoting consistency through the International Association of Insurance Supervisors (IAIS), which recently published an application paper on AI.

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Artificial intelligence in UK financial services

Artificial intelligence (AI) is expected to bring considerable potential benefits for productivity and growth in the financial sector and the rest of the economy. AI adoption has increased rapidly in UK financial services over recent years, with many firms highlighting enhanced operational efficiency and higher productivity as some of the areas with the greatest expected increase. For the financial sector to harness the benefits of AI, we need to have policy frameworks that are designed to manage any risks to financial stability that come with them.

For the past five years, the Bank of England and the Financial Conduct Authority have been running a periodic survey of how financial services firms in the UK are using AI and machine learning. The latest survey, published in November 2024, covered nearly 120 firms, including banks and insurers, among others. We found that 75% of firms are already using some form of AI in their operations, a notable increase from 53% in 2022. We also found an additional 10% are planning to adopt it within the next three years.

The insurance and international banking sectors sector are leading the way with around 95% of respondents using AI. Firms are using and planning to use AI across a wide range of business areas. In aggregate, the largest such area is operations and IT, with around 22% of all reported use cases. This is twice the proportion of the next largest area, namely, retail banking with 11%. General insurance is third with 10% of use cases.

Some of the most prevalent early use cases for AI have been fairly low risk from a financial stability perspective. 41% of respondents said that they are using AI to optimise internal processes, while 26% are using AI to enhance customer support. Potentially more significant use cases from a financial stability perspective are emerging, such as for credit risk assessment, algorithmic trading and for capital management.

AI is expected to bring considerable potential benefits for productivity in the financial sector, and these benefits are expected to grow in the next three years. Enhanced data insights, improved fraud detection, and increased operational efficiency are among the top advantages cited by firms. However, these benefits come with associated risks. Data privacy, security, and bias are significant concerns that firms must address to ensure ethical and responsible AI use. It is important we continue to develop our understanding of these risks to harness AI's full potential.

The Bank of England and the PRA adopt a technology-agnostic approach to supervision and regulation of artificial intelligence and machine learning. Our core principles, rules, and regulations therefore do not usually mandate or prohibit specific technologies; we expect firms to meet our existing rules on data management, model risk management, governance and operational resilience (including reliance on third parties), regardless of the technology they are using.

AI could transform financial services, offering numerous benefits while posing new challenges.

However, being technology-agnostic does not mean being technology-blind. Risks may arise that relate to the use of specific technologies and certain technologies may also raise novel challenges for firms and regulators, which may mean it is difficult for firms to understand how existing rules apply to that technology. In those cases, we may issue guidance or use other policy tools to clarify how the existing rules and relevant regulatory expectations apply to those technologies. To support this work, we are launching an AI Consortium of the private sector and AI experts to help us understand more deeply not only AI's potential benefits, but also the different approaches firms are taking to managing those risks which could amount to financial stability risks.

International collaboration is crucial as we look ahead. The international regulatory community has had great success in understanding new issues and innovations in financial services, where we have learned together, from each other, and developed shared principles for how to approach such cross-border challenges. Looking ahead, it will be crucial for international bodies and national authorities to continue collaborating to ensure we have the capacity to monitor AI adoption across the financial system, to assess whether our current regulatory frameworks adequately address vulnerabilities, and to consider ways to enhance those where necessary.

In summary, AI could transform the UK financial services sector, offering numerous benefits while posing new challenges. While not jumping to knee-jerk policy responses, we need to keep under review whether our microprudential and macroprudential policies remain sufficient to maintain financial stability. In so doing, we can harness AI's considerable benefits for economic growth in a safe and sustainable way.

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AI is already changing the game for banks and insurers

Artificial Intelligence (AI) is rewriting the rules of the banking and insurance industries. From streamlining basic operations, to improving risk management and reimagining the customer experience, AI will create both new growth and new risks.

Generative AI (GenAI) is transforming how financial institutions operate. An analysis of Moody's Research Assistant usage patterns demonstrates that users are accessing 60% more data and insights and reducing task time by 30%, significantly improving decision-making efficiency and insight generation.

According to McKinsey, GenAI alone could add $200–$340 billion annually to the banking sector through productivity gains. Meanwhile, the insurance industry is seeing a seismic shift from reactive (and paper based) claims processing to proactive (and data driven) risk prevention. New business models are emerging, use cases are proliferating, and challenges—both technical and regulatory—are mounting.

However, looking ahead, success will require robust governance frameworks and reliable, verifiable data to enable responsible large-scale deployment of AI.

AI impacts the top and bottom line

Versatility and adaptability are AI's superpowers.

In banking, chatbots powered by GenAI are already providing 24/7 personalized customer support, cutting response times and boosting customer satisfaction.

GenAI has helped fraud detection has leveled up as well by analyzing complex transaction patterns in real time, and by flagging anomalies with precision, which collectively save billions in avoided losses.

At the same time, in insurance, claims management is being digitized, automated and enhanced with GenAI underpinned tools, significantly speeding up settlements. Risk assessment processes are leveraging AI-targeted data from wearables and "Internet of Things" devices to price policies with surgical precision. Synthetic customer profiles even allow insurers to test marketing strategies without compromising privacy.

Hyper-personalization and more human interaction

For all the front-end glitz and glam regularly showcased, the ability to use AI to automate back-office tasks – such as compliance, research and simple document processing – is impactful and immediate. It is also enabling entirely new business models.

> The future isn't about choosing between AI adoption or caution, it's about mastering both.

For example: in banking, AI-driven insights let banks offer tailored financial products, such as dynamic loan terms. In insurance there is a focus on empowering customers with AI-driven insights and forecasts of risk that allow them to take proactive action to reduce risks and, thus, reduce premiums.

Inevitably, AI will reshape the current job market. However, AI will also enable quality and productivity gains, helping junior analysts to produce work that matches the quality of seasoned professionals and allowing for more time for higher value tasks and customer interactions. Additionally, AI has the potential to mitigate information overload, alleviating professional burnout, further enhancing workforce efficiency and well-being.

Challenges: Trust and applicability

For all its promise, AI's ascent isn't without risk. Banks and insurers handle incredibly sensitive information, and AI's hunger for data raises the specter of breaches or misuse. Extensive testing and user training are essential to prevent misapplication of AI models. Therefore, banks and insurers face a challenging adoption process to confidently implement these models.

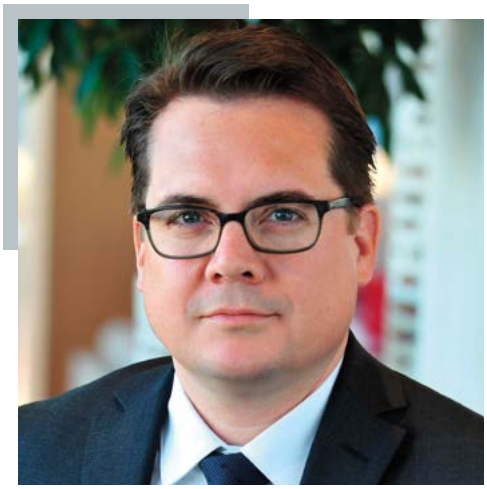
The "black box" problem — where AI's decision-making is seen as opaque — complicates accountability and trust, especially in regulated sectors where processes must be clearly articulated and decisions must be objective. Integration with legacy systems also poses a technical headache as many firms still run on decades-old infrastructure ill-suited for AI's demands.

European regulation: Balancing innovation and control

In Europe, the advancement of AI is being closely monitored under the EU's pioneering Artificial Intelligence Act. This labels certain banking and insurance use cases — like AI-driven credit scoring or health insurance pricing — as "high risk," triggering strict requirements for transparency, fairness and governance. Banks must ensure their AI systems don't discriminate, while insurers face scrutiny over how AI assesses risk without violating privacy or ethics. The upside? Compliance could build trust and open markets. The downside? Fear of the unknown could stifle innovation in the short term.

The road ahead: Promise meets pragmatism

AI's potential to revolutionize banking and insurance is undeniable, with new business models emerging, use-cases constantly evolving, and data-driven innovation unlocking new revenue and cost-cutting measures. Yet the challenges — privacy, bias, legacy tech, and regulation — demand a delicate balance. In Europe, the EU AI Act exemplifies this tension, seeking to push responsibility without choking progress. For financial services companies, the future isn't about choosing between AI adoption or caution, it's about mastering both simultaneously.



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Trust AI for successful transformation in the financial industry

Less than three years after the introduction of Generative AI (GenAI), many companies have now incorporated AI into their core business strategies and are looking for scaling its adoption. In the financial sector, more than three-quarters of European companies report using AI, but most remain in the initial phases, particularly regarding GenAI. AI adoption within the financial sector primarily focuses on enhancing back-office operations, with some progress in customer-facing applications and client interactions. While the European firms have accelerated their AI adoption over the past year, they still have lower levels of investment, research, and deployment in AI compared to US financial sector.

The usage of AI varies within the financial industry, with a GenAI usage more prevalent in insurance companies compared to banks. In the insurance sector, insurers are exploring its potential for providing consumer advice, improving pricing, underwriting processes and claims procedures. Banks are experimenting chatbots for customer support, general process automation, fraud detection and risk management. AI Innovation and its potential impact is evolving fast, as demonstrated by the emergence of Agentic AI (autonomous AI agents performing complex tasks).

The potential for increased productivity and revenue growth that AI could bring is considerable. While AI enables significant cost savings through automation and improvement of existing processes, its significant potential lies in enabling new business models. AI has the potential to create new methods of customer interaction and new products, driven by hyper-personalized experiences. For example, in insurance, AI can enable more personalized insurance products and dynamic pricing models based on real-time data.

Generative AI as a new driver of AI adoption in the banking and insurance sectors

Unlike traditional AI, which may be confined to specialists' use, GenAI is widely accessible. The extensive and rapid adoption of GenAI by individuals, serves as an accelerator for AI adoption including traditional AI. The relatively slow adoption of AI within the financial industry was initially hindered by challenges such as fragmented data sources, poor data quality or limited scaling potential. The emergence of data-centric models and the transition to cloud computing, already have alleviated some of these barriers. Moreover, GenAI is not a standalone solution and should be part of a comprehensive AI strategy, alongside predictive analytics, machine learning, robotic process automation (RPA) and –most importantly –people.

> When done right, Trust AI empowers the business by creating guardrails to accelerate innovation.

Trust is a key factor of the scalability of AI in the financial services

When artificial intelligence was only used in specific applications, the potential damage caused by disappointing returns on investment, inaccurate outputs, or compliance failures was limited. Now, employees may rely on it daily and customers regularly engage with AI-powered experiences and services. They should trust that data is used responsibly and that the AI the financial institution uses can be trusted. As AI becomes intrinsic to operations and market offerings, companies will need to manage the risks of large-scale deployment and confirm sustained value from their AI investments. Trust in the reliability, transparency and fairness of AI is crucial for widespread adoption and for safely transition the AI systems from pilot to production at scale. A rigorous assessment and validation of AI systems, clear governance framework, risk management practices and controls become nonnegotiable for scaling.

Evolution of the AI regulatory framework in EU

The European Union's regulatory framework includes the AI Act, effective from August 2024, which complements existing laws such as GDPR and DORA, ensuring data protection and operational resilience. The AI regulatory framework also includes specific industry regulations, such as Model Risk Management (MRM) in the financial industry.

The ambitions of the EU's GDPR and AI Act are commendable, and the AI Act provides legal certainty to facilitate investment and promote innovation. However their complexity and the potential for overlaps and inconsistencies could hinder developments in AI by EU industry actors as outlined in Draghi's reports. Regulatory requirements were identified as a challenge by companies across all industries this year. This may result in a slower adoption rate in Europe compared to US competitors, who are already ahead of Europe in AI.

The EU Competitiveness Compass, launched in January 2025, opportunely proposes measures to close the innovation gap, such as "AI Gigafactories" to train large models and an "Apply AI" strategy, aiming to boost industrial adoption. It also promotes a simplification and harmonization of legal rules across the EU such as GDRP. Implementing these initiatives promptly could lower barriers for AI innovation, enabling companies to scale their solutions more easily.