

AI AND ML APPLICATIONS IN FINANCE



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A sectorial approach to address the opportunities and challenges of AI

Any process or decision that is data-driven can be automated or streamlined using artificial intelligence (AI). For a sector such as insurance, where data is the raw material and data analytics is the main working tool, it is not surprising that AI will play a central role in the digital transformation of the sector.

Opportunities: using AI across the insurance value chain

AI systems are being used in insurance to automatically triage claims and determine their complexity, urgency and potential fraud risk. This can speed up the claims management process for simple property damage or medical claims, for example, by extracting relevant information from documents (such as medical bills), verifying coverage and calculating settlement amounts.

In the area of pricing and underwriting, some insurers are also starting to use AI to process satellite imagery and other new sources of information to better underwrite natural catastrophe risks and more efficiently address the risks posed by climate change. From a sales and distribution perspective, insurers are using AI to inform marketing campaigns and provide more tailored advertising and discounts. AI is also being used to assist agents in determining the “next best action” during the sales process.

While the above use cases are all noteworthy and are already being used in the sector, the step brought about by the large language models that recently hit the headlines around the world shows that we are arguably only seeing the beginning of what AI can do for the sector and for society as a whole.

Adoption of AI also brings risks that need to be addressed

While AI has the potential to bring many benefits, it also poses significant risks. Many of these risks are not new, but the inherent characteristics of AI can exacerbate them. One of the main risks relates to bias and discrimination; AI systems can inherit or learn biases from the data they are trained on, which can lead to discriminatory outcomes that disadvantage certain groups.

The opaque operation of some AI algorithms (sometimes referred to as the black box effect) also poses significant challenges, particularly in customer-facing applications where consumers may need to be provided with sufficient information to make informed decisions or have access to appropriate redress and accountability mechanisms.

From another perspective, the automation and sophistication of certain tasks will also imply changes for the insurance workforce, which will need to adapt and receive adequate training to be able to use AI to support their work and mitigate challenges.

Policy response in highly regulated sectors such as insurance

The widespread adoption of AI raises a number of questions for regulators and supervisors. First and foremost, do we need to adapt regulatory frameworks to the technological advances brought

about by AI? If so, how should this be done?

The AI Act aims to establish new rules for the development, deployment and use of AI systems in the European Union. These ex-ante measures will be complemented by the AI Liability Directive, which will ensure that consumers have access to adequate redress mechanisms in case of harm. EIOPA welcomes these legislative proposals and supports their objectives and principles to promote the ethical and trustworthy use of AI in the European Union. However, legislation such as the AI Act has the complex task of integrating provisions into existing sectoral regulatory frameworks. In the case of insurance, the sector is already highly regulated and the application of the AI Act is likely to cause some friction.

Indeed, when insurance companies and intermediaries use AI today, they are not doing so in an unregulated space. A number of legally binding instruments at international, European and national level already apply to the use of AI in the insurance sector. The insurance sector has certain specificities that deserve special attention in any cross-sectoral legislative proposal, such as the role of actuaries in the supervision of underwriting risks, which does not exist in other sectors. In addition, insurance supervisors, who are being trained on new technologies and business models through initiatives such as the Digital Finance Academy, already have extensive experience in supervising mathematical models in insurance and should continue to do so. EIOPA has also recently launched a new market monitoring survey on digitalisation, which will, among other things, gather further evidence on the level of adoption of AI and the governance measures that insurance companies are developing around it.

EIOPA recognises the challenges posed by complex AI systems and the need to promote the responsible use of AI. EIOPA stands ready to develop further guidance to the sector. However, rather than creating new, often overlapping rules, we strongly believe that this should be done building on existing sectoral requirements for governance, risk management, conduct of business and product oversight and management.