GLOBAL FEDERATION OF INSURANCE ASSOCIATIONS

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GFIA paper on AI in the insurance industry

General comments

Artificial intelligence (AI) is transforming many sectors across the global economy, and the insurance industry is no exception. New AI applications are emerging throughout the insurance value chain, enhancing efficiency and effectiveness. Initially, AI in the insurance industry centred around customer service in the form of chat bots. More recently, applications in the field of underwriting, claims handling and sales and distribution are becoming more widespread. Developments such as generative AI and the availability of new data sets through the Internet of Things (IoT) and open data are expected to further accelerate this development in the coming years.

In this paper, the Global Federation of Insurance Associations (GFIA) highlights several illustrative examples of how and why insurers make use of AI. Furthermore, this paper outlines some of the many safeguards insurers have already put in place to prevent potential unintended outcomes of the use of AI. Finally, this paper will look at the current supervisory and regulatory response to the use of AI in the insurance industry and provide some principles for possible future actions in that domain.

How insurers use AI

As insurers around the world increasingly adopt AI to optimise processes and enhance efficiency, understanding its scope and capabilities is becoming business critical. AI is reshaping the industry in many innovative ways, from enhancing customer interactions to improving risk modelling and fraud detection.

To provide context for how AI is being applied, the OECD defines an AI system as: *"a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment."*

The following applications are already widely used in the industry, and with AI's capabilities still rapidly expanding, increasingly complex uses will inevitably be applied in the future.

- Customer service:

  AI helps insurers to meet the expectations of their customers, who increasingly expect prompt and seamless customer experiences. One AI application that insurers use is speech detection to generate automated transcripts and summaries of calls with customers. Those transcripts are then automatically made available when the customer contacts the insurer again. Some insurers are also experimenting with generative AI applications that provide real time suggestions for employees on what further to ask or how to help a specific customer.

- Risk modelling and natcat:

  AI is also being used for more accurate risk modelling. This allows for more innovative products, such as usage-based or personalised insurance. These products can help reduce existing protection gaps and help to insure previously uninsurable risks.

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There is an emerging ecosystem of insurers supporting the developments of innovative AI-based solutions that can help to leverage AI technology to deliver solutions to the market. In the field of risk modelling and natural catastrophe (natcat) events, some examples include:

- A US-based weather forecasting and climate risk modelling company which uses AI and physics to provide accurate medium- to long-range weather (climate) predictions for stakeholders in sectors such as energy markets, insurance, and supply chain management. This application generates accurate, high-resolution risk maps about wildfire, extreme wind, temperature, precipitation and severe convective weather for risk selection, pricing, and portfolio management.
- An application that was developed in Switzerland and enhances existing flood models by combining computational engineering tools with AI methodologies to produce high-resolution models at scale. The company's models incorporate factors including accumulated water, speed of water movement and duration of flooding which affect how much damage a building sustains from flooding. This tool can be used to support improved risk mitigation, underwriting and claims management.
- A UK-based company that uses AI, analytics and predictive modelling to calculate risk score and identify opportunities for risk mitigation to help insurers, brokers and corporates make informed decisions. This company creates digital twins of locations by integrating information drawn from commercial property owners, over 300 data sets, satellite imagery, unstructured documents and IoT feeds attached to a given location.
- A US-based firm created a platform in 2020 that leverages AI and natural language processing to scan millions of scientific and other academic sources. Once new risks are identified, quantitative models are created to translate the research into estimates of the risk of loss. These models can be used to identify historical and future reinsurance coverage gaps, and provide a basis for the design and implementation of innovative new solutions to close the gaps.

- Claims management:

  AI enables insurers to streamline various key procedures in the insurance value chain to increase efficiency and offer products at more competitive prices.

  There are examples from Japan, New Zealand and the US, where image recognition applications, in conjunction with insurers' own historic claims database, are used to speed up claims assessment and payout after natural catastrophic events such as hailstorms or hurricanes. These applications are trained to make a first assessment of damages to property and crops based on pictures submitted by the insured themselves. This automated first assessment helps to significantly reduce the time it takes to assess and pay out claims after large scale natural catastrophic events, especially in sparsely populated or difficult to access areas. AI applications in such areas still allow the possibility for human review but help facilitate a faster and smoother claims handling process, which benefits consumers.

  There are also commercial insurance providers that have launched an AI-powered claims triage capability. The triage process embeds an AI model which assesses and assigns claims based on certain criteria and proprietary scoring algorithms into the insurers' claims workflow. This leads to faster claims service for clients and brokers.

- Fraud detection:

  AI-driven fraud detection solutions can tackle the problem of fraud by analysing massive amounts of data from multiple sources in order to spot fraudulent claims. These tools can enable insurers to spot and flag unusual patterns that a human might miss, potentially helping to reduce these huge costs, as well as the level of customer premiums.

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Responsible use of AI

Given the long tradition of the use of data and technology as an integral part of the insurance business model, the industry is also aware of the potential risks associated with the use of these technologies.

GFIA observes that the insurance industry is taking these risks seriously and **builds in the necessary precautions and procedures to address these risks properly,** including:

- Model risk management:

  Because of the industry's reliance on often complex mathematical models for assessing and pricing risks, model risk management has been an important and well-developed practice within the insurance industry. Insurers have detailed governance procedures and reporting standards in place that are designed to manage any potential risk associated with these models. In the deployment of new AI applications and models, insurers are using these same techniques to retain control over the potential risks associated with these applications, and to curb potential undesired outcomes.

  In addition to insurers' internal governance systems, there is an extensive regulatory and supervisory framework in place which already addresses key aspects such as privacy, cyber security, anti-discrimination and more general consumer protection aspects. The combination of these internal and external governance requirements, that are already prevalent in the insurance industry, make the sector better equipped and prepared than many other sectors when it comes to dealing with potential AI related risks, if they arise.

- Transparency and explainability:

  Transparency and explainability are key elements to facilitate improved public understanding and trust regarding the use and application of AI. Ensuring clarity as to when AI is being used and for what purpose will not only help to enhance consumer trust in the technology but also facilitate its overall uptake by industry. The provision of meaningful, easy-to-understand information will also contribute positively to more informed choices for consumers.

  The focus of transparency and explainability should be on providing meaningful information and clarity about the AI system and its decisions and recommendations. Explainability means ensuring that companies are able to explain how they use AI in their business processes.

  At the same time, caution must be exercised to make sure the term explainability is not used as barrier for new AI applications on the market. As AI further develops and applications become more complex there will be a limit to the extent at which processes can be explained in a comprehensible way to individuals or supervisors. This would require a disproportionate amount of resources and increases the risk of insurers having to disclose trade sensitive information.

- Combatting illegal discrimination:

  GFIA is strongly committed to combat illegal discrimination and financial exclusion in the insurance industry. There is a shared responsibility for all actors involved to comply with existing legal requirements, especially in an age where data becomes more and more available and important. Notwithstanding this responsibility and commitment by the sector, there will still be a need for insurers to differentiate on certain characteristics between policyholders. This differentiation is an essential part of risk-based underwriting which is one of the fundamental

underlying principles of insurance. Furthermore, risk-based underwriting is a key condition for preventing adverse selection and maintaining the financial stability of the sector.

Limiting the ability of insurers to access certain types of data is therefore not a feasible response to deal with the risk of discrimination in the context of AI. Instead, the focus of insurers and supervisors should be on compliance with the existing regulatory framework and on how this framework is applied in the context of AI.

Regulatory and Supervisory Response

The response by supervisors and policymakers to the use of AI within the insurance sector has so far been primarily risk- and principles-based. Principles such as transparency, human oversight, model risk management and cybersecurity seem to be the main focus of supervisors and regulators that have issued guidance on the topic. GFIA members also observe that the supervision of AI in the financial sector in their jurisdiction is often divided between multiple supervisors. This can sometimes lead to complex supervisory structures and unclarity on what supervisor is responsible for what part of AI supervision.

GFIA calls upon all involved supervisors to closely coordinate to avoid potential conflicting views or overlapping requests. Similarly, GFIA members strongly encourage dialogue between supervisors/regulators and the industry to develop a clear, shared understanding of the specific use cases, the risks associated with these use cases, what tools are already in place to address these risks, and what are the most practical ways for addressing potential remaining concerns.

GFIA would also encourage global supervisors and policymakers to seek to align their approaches with global principles and standards (such as the G7 and G20 principles), to the extent that it is possible, to ensure international interoperability and consistency, to prevent additional burdens and legal uncertainty to businesses and to enable innovation.

GFIA believes that this risk- and principles-based approach to AI regulation and supervision works well, especially given the rapidly changing nature of the technology. However, GFIA asks policymakers to be proportionate in their approach and, where possible, to rely on existing rules and regulations and contemplate whether the current regulatory framework already addresses potential concerns. This will help to prevent a fragmented landscape and keep the regulatory burden manageable, thus facilitating compliance and allowing AI to improve customer and industry outcomes.

AI has profound potential to enhance insurers' ability to provide the best outcomes for customers and to manage their own risks. The insurance industry and policymakers can work together to maximise this potential, achieving their objectives while safeguarding and protecting customers' fundamental human rights. GFIA stands ready to play its part in this process and hopes this paper provides a valuable contribution to the current exchange of ideas.

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About GFIA

The Global Federation of Insurance Associations (GFIA), established in October 2012, represents through its 42 member associations and 1 observer association the interests of insurers and reinsurers in 68 countries. These companies account for 89% of total insurance premiums worldwide, amounting to more than $4 trillion. GFIA is incorporated in Switzerland and its secretariat is based in Brussels.