

Artificial Intelligence (AI) has gone mainstream

It is the hot topic of the time, even starring as the protagonist in the latest Mission Impossible movie. A few years ago, we hadn't heard of ChatGPT and now it is a household name. Earlier this year in a team meeting we started asking Gallagher's own generative AI tool, Gallagher AI, to write mortality projection codes using the Lee-Carter model, which it did quite competently, all of which was a little unnerving.

We are all trying to determine how, when and where AI will be used. It raises a lot of questions—what can it do, how can it help in the future and, most importantly, whether it will replace all our jobs. Keeping to the theme, we have used Gallagher AI to research for this article, so blame the robots if you disagree.

As a computer science discipline, AI has a long history, traced back to the mid-20th century when Alan Turing proposed the concept of machines mimicking human behaviors. While global developments have been significant in recent years, it is only until recently (with the introduction of OpenAI's GPT (Generative Pretrained Transformer) model-3 sparking widespread interest due to its ability to generate human-like content) that the impact of an AI-enabled daily activities feels more tangible to both professionals and the wider public alike.

For the life insurance industry, AI has started its journey of becoming an integral part of business activities, particularly in operational aspects such as underwriting, claim handling and customer services. Underwriting in life insurance involves assessing the risk of insuring a potential policyholder based on various factors such as their age, medical history, lifestyle habits and more. AI can greatly enhance the speed and accuracy of this process.

A good example is Ladder, a life insurance start-up that uses AI to process applications in real-time, crunching data while processing the applications. The company has designed an algorithm that checks applicants' data against a series of databases to confirm their identity, evaluate their health and assess risk—a process that can be completed in about ten minutes, eliminating the need for lengthy medical examinations and weeks of waiting for approval.

Other examples include:

Claims handling—when a policyholder or their beneficiary files a claim, the insurance company must verify the claim's validity and determine the appropriate payout. This can be a complex and time-consuming process, but AI can help to speed it up and reduce errors.

- Lemonade, a technology-driven insurance company, uses an AI platform to handle claims. When a policyholder files a claim, the AI platform can review the claim, cross-reference it with the policy and if everything checks out, approve the claim almost instantly. In some cases, Lemonade has been able to pay claims in as little as three seconds. Similar AI-powered claim management tools have also been developed by Aegon and Ant Group.

Customer services—insurance companies are using AI to enhance customer service, providing personalized assistance and 24/7 availability.

- Haven Life, a subsidiary of MassMutual, uses an AI-powered chatbot named Maya to assist customers. Maya can answer customer queries, help them understand insurance jargon and guide them through the application process. Using AI, Maya can provide instant responses at any time of the day or night, improving the customer experience.
- Zurich Insurance Group has also developed an AI-based chatbot named Zara. Zara can answer customer questions about life insurance products, help customers get quotes and even assist them in purchasing policies. The chatbot can understand and respond to customer queries in natural language, providing a more user-friendly experience.

These examples illustrate the current applications of AI in the life insurance industry, which are primarily focused on operational aspects and based on what is known as Narrow AI, so-called because these applications focus on performing specific tasks and do not possess a broad, generalized understanding or consciousness like a human would.

In contrast, general AI can understand, learn, adapt and implement knowledge in a broad array of tasks, and while it has not yet been fully realized, it could have even more transformative power when compared with these current applications. There are a wide range of hypothetical applications of general AI and following are some examples, with a focus on capital and risk management.

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- Full AI-empowered solvency management—the solvency assessment of life insurers, both regulatory capital or economic capital, relies on sophisticated modeling and expert judgments from actuaries. It can be envisaged that an AI system could be developed to perform the end-to-end valuation, reporting and strategic decision-making by integrating all the different processes and systems into an evolving system, essentially a real-time refreshed internal model using the SII methodology.
 - General AI could integrate the existing processes such as valuation (generating sophisticated economic scenarios, simulating potential market conditions and providing real-time updates of an insurer’s solvency position), financial reporting (with AI compiling, organizing, analyzing and presenting financial data) and regulatory compliance (applying and adapting the system as per the latest regulatory requirement).
 - Meanwhile, a bolder and scarier hypothesis is that AI could replace actuaries in exercising judgments and making decisions. AI could analyze a vast range of financial instruments, risk factors and market conditions, then use this analysis to optimize the insurer’s investment and product portfolios. AI could also monitor financial markets and the insurer’s portfolio in real time, making strategic capital management decisions instantaneously in response to changing market conditions. However, managing less liquid markets, such as reinsurance or ILS markets, will be more difficult to automate.
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AI based end-to-end risk management processes could also benefit. Complex models, systems and processes have been adopted by life insurers to identify, address and monitor an array of sophisticated risks and AI can play a huge part in automating this type of risk management, such as through:

- **Data collection and integration:** AI could automatically gather data from a multitude of sources, such as medical databases, financial records, social media and IoT devices. This could provide a more comprehensive view of each policyholder's risk profile. It could then integrate data from different formats, databases and systems, breaking down silos within or between organizations. This would enable a unified view of data that could be crucial for risk management. AI could also interpret complex data, extracting insights that humans might miss, e.g., identifying non-obvious correlations between different data points.
- **Real-time risk monitoring:** AI systems can continuously monitor the data streams collected, process and analyze this real-time data, comparing it to historical patterns or the insurer's risk appetite thresholds to detect anomalies or early warning signs of potential risks, which could alert risk management professionals.
- **Risk mitigation strategies:** AI systems can then provide insights and recommendations to the risk management team, including adjusting internal policies or external strategies. AI can simulate different scenarios and provide predictions on the effectiveness of different risk mitigation strategies.

While these are hypothetical scenarios and the development of AI will continue facing substantial technological, ethical and regulatory challenges, the future of life insurance will no doubt be AI-powered. We look forward to an era when life insurance professionals harness the benefits of AI and use AI to empower our own learning journey.

Change, particularly technological, is a constant of modern life and with AI changes with both frightening and exciting implications are emerging. The issues that will arise in the life insurance industry are no doubt similar to those in other applications of the technology. How accountable is the technology, i.e., do we understand why decisions are made by it. How is it influenced by biases in the data used either to train or assess. What is the balance between humans and the technology in decisions and oversight. Are we able to manage if and when these systems fail? The list goes on and these questions are slowly being considered as the technology evolves. But for now, it is a case of being vigilant, keeping abreast of these changes and, most importantly, keeping ahead of the competition.

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