Munich RE

The future of insurance underwriting: impressions from Insurtech Insights, London

Munich – April 2023. Last month Munich Re was visibly represented in Insurtech Insights (ITI for short) by different colleagues from business units and a physical booth shared among Realytix, Apinity and Global Consulting (Insurance Solutions). Our presence on the very popular stage was higher than in earlier events. Dr. Davide Burlon chaired a session titled "The bionic underwriter of the future". Here is a summary of what was discussed in London.

Q: Let's level the playing field: can you give me your definition and a practical example of a "bionic underwriter in insurance"? Is this all about GPT4[1] placing insurance jobs very close to the top replaceable white collar jobs?

In the insurance industry we would not really use the term "bionic underwriter". In this context it refers to the use of advanced technology and data analytics tools to streamline and optimize the underwriting process. Albeit they are the first examples of automation by leveraging OpenAI it's probably not yet in the next couple of years that we should fear for our jobs. Rather than relying solely on human judgment and experience, a "bionic underwriter" leverages artificial intelligence and machine learning algorithms to quickly analyse vast amounts of data from multiple sources. This enables insurers to make more accurate risk assessments, price policies more accurately, and ultimately provide better coverage to policyholders.

A practical example of a "bionic underwriter" in action could be an insurance company that uses machine learning algorithms to analyse real-time data from various sources such as weather patterns, social media feeds, and traffic reports. This information could then be used to adjust insurance rates for policyholders based on their exposure to risk.

Q: Expanding the concept away from lines of business with big data volumes – like personal lines – what would the concept of bionic underwriting mean in e.g. specialty insurance?

The concept of bionic underwriting is particularly relevant to specialty insurance, which includes coverages for unique and non-standard risks that require more specialized underwriting expertise. Specialty insurance covers a broad range of industries and niches, including marine, aviation, cyber, and professional liability insurance. In these areas, the underwriting process can be complex and require a deep understanding of the risks involved.

By utilizing "bionic underwriting", specialty insurers can access vast amounts of data and leverage machine learning algorithms to make more accurate risk assessments and pricing decisions. For example, a marine insurer could use historical data on weather patterns and shipping routes to better understand the likelihood of accidents and adjust premiums accordingly.

[1] https://arxiv.org/pdf/2303.10130.pdf

Moreover, "bionic underwriting" can also help specialty insurers improve their speed to market. With the ability to quickly analyse and price risks, insurers can more rapidly respond to market trends and offer new products that meet the needs of their customers.

Q: Let us focus on the future of the work of an underwriter, following one of more of the big mega-trends our industry is seeing. These can be summarised as follows:

1. Industry broad economic forcings and challenges (e.g. cost of claims, inflation, automation)

2. A widening protection gap and the role of cyber and climate in different lines of business

3. Emerging distributions models (e.g. embedded insurance)

4. Increased customers' digital expectations

5. Regulators trying to keep a balance between hyper-customisation or products and pricing (like in e-commerce) and mutualisation of risk

We can focus on each of those independently, acknowledging that these are all extremely complex topics.

Industry economics and challenges
In the face of rising costs of claims and inflation, insurance underwriters increasingly rely on automation and data analytics tools to streamline the underwriting process and improve the accuracy of risk assessments. Moreover, underwriters need to adapt to the changing risk landscape, with a focus on new and emerging risks such as cyber, climate change and technology-related risks that may require specialized expertise and new types of coverage.

Widening protection gap
Underwriters pay closer attention to the widening protection gap, particularly in emerging markets and areas that are more exposed to natural disasters and climate-related risks. In addition, the increasing threat of cyber-attacks requires underwriters to develop new approaches to risk assessment and pricing, as well as innovative products that can address the unique needs of customers across different lines of business.

Emerging distribution models
As insurance distribution models continue to evolve, underwriters need to adapt to new channels and business models such as embedded insurance. This may involve collaborating with technology partners and exploring new opportunities for partnerships and joint ventures.

Increased (customer) digital expectations
As more consumers and businesses shift towards digital channels for purchasing and managing insurance policies, underwriters need to adapt to this changing landscape. First and foremost, underwriting for specialty lines and niche segments need to go through a rapid digitization process, that uniforms data usability and the speed at which automation can take place. With more customers interacting with insurers through digital channels, underwriters have access to more data than ever before, develop more accurate risk models, and better tailor their products and services to individual customer needs.

Underwriters have more time to focus on higher-value activities such as risk analysis and product development. This can help them stay competitive and provide better service to customers. As digital channels become more prevalent, underwriters work closely with other teams such as actuarial, marketing, and customer service to ensure that they are meeting customer expectations.

Role of the regulator
As insurance becomes more customized and personalized, regulators are likely to place greater emphasis on ensuring that insurers are adequately managing risk and maintaining the overall stability of the industry. Some ways that underwriters might use to respond could be to develop more robust risk management frameworks: underwriters need to work closely with risk managers and compliance teams to develop more robust risk management frameworks that can keep up with the pace of change in the industry.

As regulations evolve, underwriters will need to stay up-to-date on the latest developments and ensure that they are adhering to all relevant requirements. To balance customization with mutualization of risk, underwriters will need to work closely with product development teams to ensure that they are striking the right balance between these two factors. It is an effort that involves different entities of a company, because reporting and compliance with the spirit of regulation remain of upmost importance.

Q: Summarizing your impressions from the panel on "bionic underwriting", how do you expect insurance underwriting to change?

Based on the trends discussed at the conference we expect that insurance underwriting will continue to become more digitized and tech-enabled in the coming years. Some potential changes that we might see include an increased use of automation and AI: as the amount of data available to insurers continues to grow, underwriters will increasingly rely on automation and AI to analyse this data and improve risk assessment.

As consumers become more accustomed to personalized and seamless experiences in other areas of their lives, insurers will need to prioritize the customer experience in order to remain competitive. Underwriters will play an important role in ensuring that insurers are able to provide the right products and services to meet the needs of their customers. Since insurance becomes more tech-enabled, underwriters will need to work closely with other teams such as data scientists, product developers, and customer service representatives in order to develop and deliver the best possible solutions to customers.

Where this evolution will take us is of course hard to predict but there general feeling is that of empowerment driven by technology rather than abrupt disruptions. It may involve the integration with Large Language Models: while it's unlikely that Large Language Models (LLMs) will completely replace underwriters in the near future, there may be opportunities to integrate LLMs into the underwriting process to improve accuracy and efficiency. For example, LLMs could be used to analyse unstructured data such as submitted documentation, social media posts or news articles to identify, summarise and analyse emerging risks that underwriters may not have considered.

Overall, the use of "bionic underwriting" in insurance is a prime example of how technology is transforming the industry, improving efficiency and accuracy, and ultimately benefiting both insurers and policyholders.

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