KPMG

Artificial intelligence in the insurance industry

How insurers can manage the risks of AI and stay ahead of regulatory developments

November 2023

The rapid development of artificial intelligence (AI), including generative AI and machine learning, has brought many advantages for the insurance industry, but has also introduced risks.

Global insurers are now allocating significant resources to implementing AI technology: in the Hong Kong (SAR), for example, a major insurer has invested HK$20 million in AI to improve its technology and services, which has helped shorten the claims processing time from days to just five minutes[1].

But while the adoption of AI brings many benefits, there are also concerns about areas including data privacy, traceability, bias in algorithms, and potential conflicts of interest. With the rise in AI adoption, understanding how to manage these risks will become a top priority for both regulators and insurers.

"Generative AI is an increasingly hot topic in boardrooms, with leaders looking to better understand its potential and how to implement this technology in their business strategies. The challenge is spending the money in the right places and having the right skills to fully exploit the opportunities it presents."[2]

Lisa Heneghan
Global Chief Digital Officer, KPMG International

KPMG global surveys show organisations are investing in AI

According to the KPMG 2023 CEO Outlook[2] and Global Tech Report[3], insurers are increasingly embracing emerging technology and AI is considered to be one of the most important emerging technologies.

Buy-in for emerging technology

Increase from 10% to 38%

Technologies positively impacting profitability and performance

Data and Analytics
66%

AI and Automation
64%

Public cloud and Xaas technologies
63%

Common benefits of AI for businesses include its ability to:

- Enhance customer engagement
- Provide new upsell/cross-sell opportunities
- Add new features to existing products
- Support new business development
- Raise employee satisfaction levels

AI use cases for the insurance sector

According to a KPMG survey of executives from the financial services sector in the US[4], more organisations will be experimenting with AI in the next 12 months. Respondents plan to focus on:

- **76%** Fraud detection
- **68%** Risk management
- **66%** Chatbots and virtual assistants

Sales and distribution

AI-enabled marketing: By analysing market trends, customer preferences and branding guidelines, AI can help insurers identify leads as well as tailor sales scripts and marketing materials that can better target potential customers.

Optimisation of affordability and suitability assessments: AI can enable the provision of comprehensive insights and tailored suggestions on products that align with customers' financial capabilities, life targets, risk tolerance and preferences.

Chatbots improving customer experience: The availability of chatbots can allow insurers to answer clients' inquiries from anywhere and at any time.

Policy administration

Automation of repetitive tasks: AI can automate policy administration processes by extracting relevant information from application forms, validating data and generating policy documents. This helps to save costs and reduce manual errors.

Customisation of policies: By analysing real-time data, AI can help tailor-make policies with optimal costs and values — offering the lowest premium with the maximum coverage — for better customer outcomes.

Claims management

Precise fraud detection: AI can detect potential claims fraud precisely and efficiently by performing pattern and image analysis, helping to mitigate fraud risks and reduce financial losses.

More accurate claims estimations: AI algorithms can match claims details against policy coverage, and more efficiently and accurately determine the eligible amount to be claimed and reserved based on policy limits, deductibles and exclusions.

Product development

Driving innovation: AI can support agile product development by identifying gaps and suggesting new product concepts, with the capability to analyse market trends, customer feedback and other data sources.

Model risk management

AI-powered model risk management: Forecasting accuracy can be improved by using AI for model risk management (e.g. back-testing and model validation) and stress testing, optimising the variable selection process and enabling richer data segmentation.

Ethical and regulatory challenges are key concerns in deploying AI at scale

Although global CEOs are keen to press ahead with their investments in AI, they also recognise that such emerging technologies can introduce risks that should be addressed, according to the KPMG 2023 Global CEO Outlook[2].

57%	Proportion of respondents who cited ethical challenges as the top concern when it comes to implementing generative AI, followed closely by a lack of regulation

Reacting to the associated risks and challenges, governments and regulators across the world are becoming more proactive in developing requirements and guidelines to govern the use of AI, including in Hong Kong.

Regulatory developments on AI application in Asia

In the **Chinese Mainland**, the Cybersecurity Administration of China (CAC) published the 'Interim Measures for the Management of Generative AI Services' in July 2023[5]

In **India**, the Ministry of Electronics and Information Technology indicated in May 2023 that AI regulations will be forthcoming

In **Singapore**, the Monetary Authority of Singapore (MAS) released the Veritas Toolkit version 2.0 in June 2023 to help organisations test the compliance of their AI frameworks[7]

Regulatory development on AI application in Hong Kong

The **Hong Kong Monetary Authority (HKMA)** issued high-level guiding principles with respect to the use of big data analytics and AI in 2019[8]

The CEO of the **Securities and Futures Commission (SFC)** highlighted the importance of addressing risks associated with AI models in a speech in June 2023[6]

In the **Hong Kong Insurance Authority's (HKIA)** May 2023 'Conduct in Focus' publication, the need to mitigate cybersecurity risks, incorporate ethical considerations, address legal implications, and leverage existing guidelines and principles to ensure the responsible and regulated use of AI was emphasised[9]

While the HKIA has not yet issued specific requirements for the use of AI, existing guidelines (GL) already give guidance that is relevant for insurers using AI:

- Per definition in GL20 Cybersecurity[10], it applies to AI based on transmission, storage, use, or processing of data transmitted, stored and retrieved by electronic means
- Corresponding cyber requirements are also included in Section 7 of GL21 Enterprise Risk Management[11]

The use of AI should therefore be covered in insurance firms' existing cybersecurity strategy and governance framework, and the risks and controls of using AI should be identified, assessed and monitored.

Compliance with these requirements is crucial to the use of AI and helps insurers to have a robust foundation in addressing Hong Kong-specific regulatory challenges.

Global association's proposals on regulatory next steps

The International Association of Insurance Supervisors (IAIS) issued a report on fintech development in December 2022[12]. It proposed a number of regulatory next steps based on the safe, fair and ethical adoption of AI and machine learning (ML), and the use and governance of data. The report specifically noted the need for regulators to address policies and weaknesses regarding appropriate fairness metrics, including:

Having policies and guidelines in place to support and further safeguard the use of AI and ML, by analysing existing guidance or providing new guidance

Address the lack of maturity in detecting and mitigating discriminatory biases, to assure the appropriate monitoring of ethics and fairness of using AI and ML

Given these proposals from the IAIS as well as other industry developments, it is expected that upcoming regulatory requirements on using AI in the insurance sector will focus on[12]:

Risk management and governance — *around the design, use and deployment of AI*

Fairness/customer harm — *under existing regulations*

Purpose limitations and data minimisation — *limitations on data access and use*

Getting ahead of regulatory requirements on AI applications

We have outlined ten core principles[13] that will enable insurance firms to fulfil current requirements on AI and prepare for the likely regulatory developments in the near future. These cover areas including framework, controls, processes and tools for designing, as well as building and deploying AI safely.

1. Fairness
Help enable models to be free from bias and remain equitable

2. Explainability
Help enable the understanding and documentation of AI algorithms

3. Accountability
Help establish mechanisms to drive ownership and responsibility

4. Security
Safeguard against unauthorised access, prompt injection, data poison and corruption, and other attacks

5. Transparency
Drive responsible disclosure, ensuring stakeholders have a transparent understanding of the AI lifecycle and its impact.

6. Safety
Safeguard against a negative impact on humans, property and the environment

7. Data integrity
Help embed trust with data quality, governance and enrichment steps

8. Reliability
Help ensure AI systems perform at the desired level of precision and consistency

9. Privacy
Solutions should be designed to comply with applicable privacy, data protection laws and regulations

10. Sustainability
Solutions should be designed to be energy efficient, reduce carbon emissions, and support a cleaner environment.

Contact us for further discussion

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