

Addressing AI Bias in L&A Insurance

Introduction

As society continues to explore and understand the potential of the latest AI innovations that have become mainstream, such as ChatGPT, Gamma, and others, we are also discovering their limitations and risks. As humans, we can more easily weigh the risks and benefits of these new technologies, but it's an entirely different circumstance for insurance organizations that employ AI tools to streamline and expedite their operations. Here the stakes are much higher; the influence of AI-generated errors can be critical and harmful. Life and Annuities (L&A) insurers in particular stand to gain numerous advantages from AI implementation, but it's critical for them to understand and pinpoint their potential risks and carefully manage them.

The Benefits of AI for L&A

L&A insurance operations comprise a wide range of detailed and time-intensive tasks. They often involve intricate connections and patterns that may not be noticeable to the human eye. AI algorithms, however, are exceptionally adept at identifying these nuances. As a result, they can provide more precise risk assessments and determine the cost of life insurance policies that are tailored to everyone's specific needs. This, in turn, leads to a decrease in customer turnover and improved customer satisfaction. It's a significant step toward improving the insurance experience.

There are many additional insurance activities that can be automated through AI. Underwriting requires analyzing vast amounts of data and AI does this quickly and accurately, enabling insurers to make more informed decisions during the underwriting process, resulting in improved risk assessment, more competitive pricing, and faster time to decision. This ultimately benefits both the insurance carriers' bottom line, as well as the experience of the insured during the buying process.

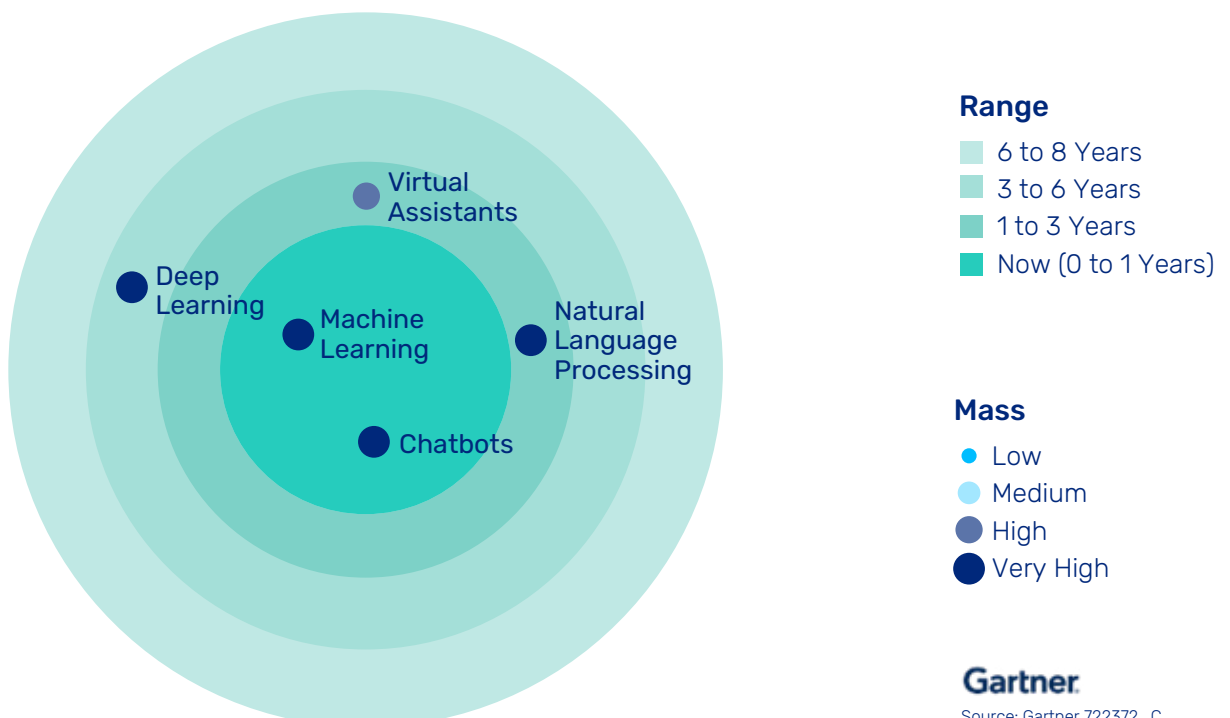
Creating tailored life and annuity products based on individual customer profiles, preferences, and needs is also a major benefit of AI. Accurate personalization in any service transaction

improves customer satisfaction and enables upselling. In terms of customer service, AI-driven chatbots and virtual assistants provide customers with instant responses to queries and assist in policy-related matters, improving customer service while reducing operational costs. This level of personalization can also improve the very sensitive claims process, which can really impact the customer experience and net promoter score of a life carrier.

Most carriers are continually looking for ways to improve operational efficiency. AI driven claims processing that further enables automation, reduces the time required to settle claims, leading to faster payouts and, again, improved customer experience. In addition, automating routine tasks through AI frees up workers to focus on more complex and value-added tasks, also contributing to overall operational efficiency.

Fraud detection is another major area where AI AI-powered algorithms can help. By detecting patterns that indicate fraudulent activities, insurers can more easily identify and prevent potential fraud cases. Finally, because AI can analyze historical data to identify trends, it allows insurers to develop data-based strategies for product development, risk mitigation, and market expansion.

Adoption of AI in Insurance – Emerging Trends



AI Risks

Despite the numerous benefits of AI, there are also related risks that must be carefully assessed and managed. The major concern is bias and fairness, as AI models can inherit biases already present in the data they are analyzing. Biased algorithms can lead to discriminatory outcomes in underwriting, pricing, and claims processing, potentially resulting in regulatory and reputational issues.

Additional risks include inaccurate predictions, lack of transparency, data privacy concerns, regulatory compliance, customer mistrust, loss of human expertise, and model robustness and maintenance. Others include interpretability and auditing, market volatility, dependency on data quality, and ROI of implementing AI.

To mitigate these risks, insurance companies must adopt responsible AI practices. This is possible through thorough testing, ongoing monitoring, inspecting and addressing bias, maintaining human oversight, ensuring data privacy, and complying with regulatory standards. Collaborating with AI ethics experts, legal professionals, and industry regulators can

help insurers strike the right balance between business as usual and monitoring risks.



“Training datasets used for machine learning software that casually categorize people into just one of two genders; that label people according to their skin color into one of five racial categories, and which attempt, based on how people look, to assign moral or ethical character. The idea that you can make these determinations based on appearance has a dark past and unfortunately, the politics of classification has become baked into the substrates of AI.”

Kate Crawford, Senior Principal Researcher at Microsoft Research and Co-Director of the AI Now Institute.¹

Primary Concern: Bias

Generative AI is only as good as the data it learns from, so it perpetuates anything present in its training data. Bias in AI refers to the presence of systematic and unfair discrimination in the outcomes of an AI system, often resulting in unfair advantages or disadvantages for certain groups or individuals. While AI models alone do not have any inherent biases, if an AI model is trained on data that includes biases, it is likely to perpetuate and amplify them through its decision-making process. If chronicled data contains inherent biases such as the underrepresentation of certain demographics or groups, the AI model might perpetuate those biases.

This is a particular concern in industries like insurance that rely heavily on data-driven decision-making and can result in discriminatory outcomes in processes like underwriting, pricing, claims processing, and customer service. In the context of L&A, AI bias can manifest in various ways, leading to unfair treatment or outcomes for policyholders, applicants, and beneficiaries.

Unequal pricing is a significant concern as AI

algorithms may potentially set higher premiums or rates for certain demographic groups based on their association with higher risks according to historical data. For example, if a specific racial or ethnic group historically had higher mortality rates, the AI model might unfairly assign them higher premiums, even if individual risk factors differ. This is an area that regulators have focused on in recent years and have already put strict rules around.







Bias in training data can also lead to denied coverage or limited access to insurance products for some individuals, occurring when certain groups are considered higher risk solely due to their association with specific regions or socio-economic backgrounds. Another common bias is the lack of inclusivity as AI models don't necessarily cater to the unique needs of diverse customer groups. For instance, a biased model might not effectively consider the needs of individuals with certain health conditions, leading to inadequate protection options for them.

1. <https://www.theguardian.com/technology/2021/jun/06/microsofts-kate-crawford-ai-is-neither-artificial-nor-intelligent>

McKinsey & Company² also proposes a methodology for effectively mitigating AI bias:

Minimizing bias will be critical if artificial intelligence is to reach its potential and increase people's trust in the systems.

Six potential ways forward for artificial-intelligence (AI) practitioners and business and policy leaders to consider

-  1 Be aware of contexts in which AI can help correct for bias and those in which there is high risk for AI to exacerbate bias.
-  2 Establish processes and practices to test for and mitigate bias in AI systems
-  3 Engage in fact-based conversations about potential biases in human decisions
-  4 Fully explore how humans and machines can best work together
-  5 Invest more in bias research, make more data available for research (while respecting privacy), and adopt a multidisciplinary approach
-  6 Invest more in diversifying the AI field itself

Navigating Fairness

While we have definitions and numbers to gauge fairness, they can't cover the real-life situations AI faces or how data is collected. What is critical for L&A insurers is the right balance of AI processing and human intervention. Who decides when an AI-based system is unbiased enough to use safely? When should AI make decisions all by itself? These are tough questions that can't be solved by technology alone. Humans from various disciplines, such as the social sciences, law, and ethics, need to collaborate and set standards in this new realm.

So how to find and fix AI bias? AI models need good data to work right. Ensuring diverse and unbiased training data is crucial to prevent discrimination and unequal treatment. One way is to make sure the data used to train AI is balanced. It requires information from all kinds of people and places to make fair predictions. Insurance companies should also check their AI often to make sure it remains neutral. They can do this by analyzing what the AI predicts and how it makes decisions. And it's important to use AI that's easy to understand, to comprehend why it makes certain choices.



“Mitigating AI bias isn't a battle to be fought solely in the courtrooms; it demands an all-hands-on-deck approach involving technologists, lawmakers, civil rights advocates, and organizations. Organizations should prioritize ethical AI design and increase transparency in their AI systems. This may include revealing the nature of their AI decision-making processes, the data used in training algorithms, and the potential limitations and biases of their AI systems.”³

2. <https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-bias-in-artificial-intelligence-and-in-humans>

3. <https://www.reuters.com/legal/legalindustry/unmasking-ai-bias-collaborative-effort-2023-07-21/>

AI can significantly streamline processes, but human oversight is still the ideal way to ensure fairness and address potential biases that AI might not recognize. People should still monitor AI by identifying and rectifying errors and discriminatory or inappropriate outcomes. It's the best way to ensure fairness and fix any mistakes AI might make.

The National Association of Insurance Commissioners (NAIC) has working groups and committees in place that are regularly tackling the topic of AI in a variety of forms, most notably the Accelerated Underwriting Working Group which was created by the Life Insurance and Annuities Committee, as well as the Big Data and Artificial Intelligence Working Group under the Innovation, Cybersecurity, and Technology Committee.

In the L&A insurance ecosystem, AI bias remains a major challenge. Evolving business models and their underlying data will constantly change, making it impossible to build a perfect training dataset for AI. Only by embracing responsible AI development can insurers develop products that are accessible, affordable, and equitable for all.



According to a recent report by Gartner⁴, product leaders developing AI-enabled insurance solutions must focus on:



Capturing improvements in customer-service-related metrics as part of their advocacy program from early adopter insurers, to help support new business development with fast followers.



Looking for areas where generative AI advancements improve and accelerate the accuracy and efficiency of existing AI deployments – such as real-time summarization of customer call issues or extracting data from complex policy documents – before turning to net new use cases.



Creating persona-specific advanced virtual assistants (VAs) and decision intelligence that help augment the roles of underwriters, claims managers, and customer service representatives, instead of more general enterprise-wide VAs.



Demonstrating the value that data fabric brings in optimizing existing insurance processes in underwriting, claims and actuarial functions, before expanding relationships with insurers to more transformational data fabric use cases, such as personalization and dynamic pricing.

4. Gartner report: Emerging Tech Impact Radar: Artificial Intelligence in Insurance, August 9, 2023



“The promise of AI in L&A lies in its ability to provide accurate insights. However, if we allow bias to seep into these systems, the very foundations of equity and trust are at risk”.⁵

Conclusion

AI bias is not simply a technical issue; it's a challenge that affects society at large.

As AI takes on significant roles in domains like L&A insurance, we must acknowledge that each data point can potentially reinforce biases. Our responsibility is to craft AI systems that don't merely process data, but actively challenge hidden prejudices. It's crucial that the decisions made by our systems remain transparent, fair, and free from discriminatory biases. In harnessing AI in L&A insurance processes, we must ensure that technological advancements don't inadvertently perpetuate societal inequalities.

Insurance revolves around risk management and mitigation, yet AI bias introduces a new kind of risk – the risk of unfair treatment. As we welcome AI into L&A, our commitment to impartial and equitable decisions must remain resolute. Addressing AI bias requires a comprehensive approach that harmonizes people, processes, and technology, where each facet is vital.

The potential of AI in L&A insurance can only be fully realized when we collectively confront bias, underscoring the industry's duty to cultivate inclusivity and equity through technological progress. AI systems should be guided by ethical principles to ensure every policyholder is treated with dignity and fairness.

5. <https://www2.deloitte.com/xe/en/insights/focus/cognitive-technologies/ai-model-bias.html>

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