The Evolution of Generative AI and Its Potential in the Insurance Industry:

Unlocking Growth, Efficiency and Risk Mitigation

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What is Generative AI?

Generative AI has come a long way since its inception, evolving from simple rule-based systems to sophisticated models capable of generating complex outputs. Recent breakthroughs and an explosion in popularity have led to rapid growth in this field, with organizations across industries and business functions adopting generative AI to drive innovation and efficiency. But what is Generative AI? It is a cutting-edge technology that businesses eagerly anticipate for driving revenue growth, operational efficiencies and risk mitigation. It is a subfield of artificial intelligence that focuses on the development of algorithms and models capable of generating new data, often resembling or mimicking existing data. This is achieved using advanced machine learning techniques, such as deep learning and neural networks. The primary goal of generative AI is to create systems that can autonomously produce high-quality, realistic and diverse outputs without explicit human intervention.

In simple terms, it is a technology that has an uncanny ability to understand the intent of your queries and generate outputs that you would be hard-pressed to determine whether a human or a machine generated. In other words, applications that utilize this technology, such as ChatGPT, can become your very own personal assistants.

ChatGPT

Speaking about ChatGPT, let us dive into where ChatGPT fits into all of this. ChatGPT is a language model, developed by OpenAI, based on the GPT (Generative Pre-trained Transformer) architecture. It is designed to understand and generate human-like text, enabling it to engage in interactive and dynamic conversations with users. ChatGPT is trained on a diverse range of internet text data, which allows it to generate contextually relevant and coherent responses to user inputs.

Broadly speaking, there are two types of models underpinning the GPT architecture (so far): Transformer-based models (e.g., GPT-3.5) for text inputs and Multimodal models (e.g., GPT-4) for various data types. These are large language models (LLMs) and are pre-trained on large-scale datasets and fine-tuned for specific tasks, such as question-answering, summarization or translation. The key strength of GPT models, including ChatGPT, lies in their ability to generate context-aware, fluent and semantically meaningful text. At this point, many versions of these models are mature enough that one can talk and carry on conversations with an application like ChatGPT as one would with another person.

Right now, generative AI excels in creative tasks such as:

▶ Drafting emails
▶ Customizing marketing content
▶ Providing customer support
▶ Writing code

When paired with other AI models, quality data, governance rules and analytics modules, it can create powerful solutions to power autonomous and semi-autonomous decision-making within organizations by blending their internal data with industry and market data.

In the rest of this whitepaper, we will explore the history and recent rise of generative AI, consider the opportunities it brings for the insurance industry, and discuss the importance of high-quality data and responsible AI practices in maximizing its potential.

A BRIEF HISTORY OF GENERATIVE AI

The journey of generative AI began with the development of rule-based systems and expert systems in the 1960s and 1970s. These early systems relied on predefined rules and knowledge bases to generate outputs. However, as the need for more complex and adaptive solutions grew, researchers turned to machine learning and deep learning techniques to create more advanced generative models.

In recent years, the advent of deep generative models such as Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs) has revolutionized the field, enabling the generation of high-quality, realistic outputs across various domains.

THE EXPLOSIVE RISE OF GENERATIVE AI

The adoption of generative AI has grown exponentially, with organizations increasingly leveraging its capabilities to drive innovation and efficiency. To put its adoption levels into perspective, it took ChatGPT, the app that arguably brought Generative AI mainstream, only 2 months to reach 100 million global monthly active users. Compare that to Instagram, which took 30 months to reach the same figure. To put the 100 million users number into perspective, consider the fact that this figure is more than the total population living in the United Kingdom. This surge in popularity can be attributed to several factors, including:

▶ Advancements in computing power: The availability of powerful GPUs and cloud computing resources has enabled the training and deployment of large-scale generative models.

▶ Improvements in algorithms and techniques: Researchers have developed more sophisticated algorithms that can generate high-quality outputs with minimal human intervention.

▶ Growing awareness of the potential benefits: Organizations are recognizing the value of generative AI in enhancing their products, services and operations.

▶ Human-like interactions and understanding, versatility and speed in tackling issues.

The last point above has been especially powerful in getting people from all walks of life to start using generative AI. Considering it can tackle varied tasks such as creating children's games, drafting business plans, code generation and more, all within a fraction of the time it would take humans to do the same thing, and with way more knowledge at its fingertips, it is no wonder it has taken off the way it has across personal and professional domains. The key to this technology has been the rise of Big Data over the years, as well as the unprecedented amount of computing power available to us. The idea of a human-like AI has been in the mix for decades – the entertainment industry has come closest to visualizing the concept (albeit painting it in a very negative light) with movies such as "The Terminator" and "I, Robot." However, humanity is now at a stage where all the ingredients are available to turn theory and vision into reality.

GENERATIVE AI IN THE INSURANCE INDUSTRY

The insurance industry has been quick to adopt generative AI, leveraging its capabilities to help streamline operations, improve risk assessment, and enhance customer experiences. Some key applications include:

1. Automated underwriting

The underwriting process for most lines of business involves multiple steps with considerable time and effort. Even though it has improved considerably since the legacy days, there is still a lot of room for improvement.

Underwriters have to scan the customer data and compare it with the underwriting manual for generating a risk profile. This allows them to decide what products/coverages can be offered to the customer and their qualification limits. If it involves health data, there is another comparison needed against health manuals and standards.

Generative AI can help with automating these tasks to a large extent. It can review the customer data, compare it against industry standards and create a risk dashboard for the UW that is easy to consume. Underwriters can make key decisions based on the dashboard and also chat with the model for any clarifications.

2. Enhanced claims processing

A typical claim lifecycle from FNOL to payment can take from weeks to months. One of the primary drivers for this long cycle time is the amount of human interaction needed to review details of the policy, claim and coverages and come to a decision.

By automating multiple aspects of the claims assessment process, generative AI can help insurers reduce processing times and minimize human error. Some of the areas where generative AI can be used are real-time status updates, claim analysis, claim segmentation and coverage verification.

3. Fraud detection

One of the biggest advantages of generative AI is the ability to scan structured and unstructured data of prior claims. Advanced generative models can identify patterns and anomalies in data, helping insurers detect and prevent fraudulent activities.

It can also keep a check on all the previous data of the customer and help identify patterns that could be cause for concern.

4. Customer feedback analysis

It is important for insurers to keep track of customer sentiments and customer feedback to gain a competitive advantage over their peers. Due to the availability of various channels for customers (Google reviews, Facebook reviews, etc.) to provide feedback, it is possible to lose sight of the key issues preventing elevated user experience.

Generative AI can analyze customer feedback, reviews and social media sentiments from various channels. It can then be summarized into easy-to-read dashboards highlighting common issues across all reviews.

5. Personalized products and services

Have you ever been forced to buy something just because it came with the package? Many insurance products and services have coverages included that may not be useful to you, but you are still inclined to buy them for the other mandatory coverages.

Generative AI can study your profile and help insurers offer you a customized product with only the coverages you need and the limits that are essential to your profile. It can provide recommendations on what options are best suited based on your data. The advanced ML algorithms can analyze your history and browsing patterns to match you with a product/service of your interest. This can help insurers stay competitive and innovative in this constantly changing market.

THE IMPORTANCE OF HIGH-QUALITY DATA AND RESPONSIBLE AI PRACTICES

High-Quality Data: The Foundation of AI Success

To fully harness the potential of generative AI, insurers must ensure they have access to **high-quality data.** This means having a well-governed, auditable and non-siloed data architecture and infrastructure in place. By doing so, organizations can avoid the pitfalls of "garbage-in, garbage-out" and ensure their AI models generate accurate and meaningful outputs. It is critical for organizations to get a handle on their data estate, as well as a check on their data's health (completeness, accuracy, validity, consistency, timeliness, governance, etc.). The age of Big Data has enabled the rise of Generative AI, but it has also put more strains on organizations in terms of data management and analytics. Organizations are getting bombarded by data from all sources, and while it is tempting to shut down data sources to get a handle on your data estate, doing so can directly harm maximizing the use of AI within your organization. That is because training on as much data as possible is what makes AI "tick." But to make it truly beneficial, AI must be trained on clearly defined, high-quality data, as opposed to "garbage" or "wrong" data. As such, data lakehouse architecture, system integrations, data cataloging, data lineage, data labeling and data governance become critical to AI adoption.

Responsible AI: Addressing Bias and Ethics

As AI becomes increasingly integrated into business processes, insurers must also consider the ethical implications of their AI systems. This includes addressing issues such as **AI bias** and ensuring that AI models are transparent, explainable and accountable.

By establishing a strong foundation in data governance and responsible AI practices, insurers can ensure their generative AI initiatives drive positive outcomes while minimizing potential risks.

Conclusion

Generative AI holds immense potential for the insurance industry, offering opportunities for growth, efficiency and innovation. However, to fully realize these benefits, insurers must invest in high-quality data and responsible AI practices.

BDO's Data & AI Blueprint framework provides a comprehensive roadmap for organizations seeking to harness the power of generative AI. By partnering with BDO, insurers can navigate the complexities of data governance, AI ethics and technology implementation to unlock the full potential of generative AI.

Reach out to discuss BDO's Data & AI Blueprint framework and embark on your organization's journey to success with generative AI.

BDO Digital's comprehensive suite of AI services is designed to assist organizations at every stage of their AI journey, providing end-to-end support for successful AI implementation and adoption. Whether organizations are just beginning to explore the possibilities of AI or are already leveraging it for business transformation, we provide tailored assistance and help them mature their AI adoption over time.

Get in touch with a professional at BDO Digital to see how AI can better manage your data and tailor solutions to your business.

Have questions or want to learn more?

CONTACT US!