

**SAPIENS**

White Paper

# Charting the Human-AI Frontier in Life Insurance



# Intro

**AI is no longer a distant vision for life insurers—it's actively redefining how work gets done across the enterprise, transforming workflows, innovation, sales productivity, and hyper-personalization, even as most organizations remain early in their journey. This evolving landscape demands a reframing of how responsibilities are executed and governed in insurance organizations. Rather than viewing AI as either a replacement for humans or merely a tool to enhance productivity, AI can be a collaborative partner where work responsibilities are allocated based on the comparative advantages of each partner.**

**AI is well equipped to handle repetitive tasks, freeing humans to concentrate on strategic work that drives real value. With targeted training and a commitment to evolution rather than replacement, today's insurers can transition into hybrid roles where human expertise amplifies technology intelligence. Therefore, the future of work for humans isn't about workforce reduction, but rather workforce elevation, creating positions that are more analytical, more creative, and ultimately more meaningful.**

## The Human-AI Partnership

For decades, the insurance industry automated routine tasks through rules-based systems and process optimization. The current wave of AI-powered transformation, however, represents modern AI systems powered by machine learning, natural language processing, and predictive analytics that don't simply execute predefined tasks -- they learn from data, identify patterns humans might miss, and generate insights that inform strategic decisions.

These "cognitive technologies" have enabled a shift from automation to augmentation, creating a new paradigm: the human-AI partnership. In this model, neither humans nor AI systems work in isolation. Instead, they form collaborative teams where responsibilities are dynamically allocated based on the comparative advantages of each partner.

## What's at Stake

With the growth of AI in the insurance industry, research indicates that insurance sector AI leaders have created 6.1x the total shareholder return of AI laggards over the past five years -- significantly outpacing the 2 to 3x advantage seen in most other sectors<sup>1</sup>. This performance gap underscores an important and fundamental truth: AI is not only an efficiency tool, but a transformative force that will determine which insurers thrive and which become irrelevant. And as consumers become accustomed to AI-powered experiences in other industries, they increasingly expect higher accuracy, humanlike conversations with AI assistants, hyperpersonalized offers, and on-demand products tailored to their specific needs from their insurance providers.

Furthermore, experience has shown that the insurance industry has unique potential for unlocking value from AI, as it has deep data reserves, including longitudinal data on customer practices and interests<sup>2</sup>. It has long relied on data-driven decision making, with proficient staff and well-trained analysts. It has demonstrated rapid gains in productivity and new business through new AI implementations.

<sup>1</sup> "The Future of AI in the Insurance Industry," McKinsey & Company, July 2025

<sup>2</sup> Insurance Leads in AI Adoption. Now It's Time to Scale, BCG, 2025



# AI Adoption in Insurance – Redefining Responsibilities

Today's advanced AI handles data-intensive pattern recognition and generates predictions and recommendations, while humans interpret these insights within broader business contexts, apply strategic judgment to AI-generated strategies, and make final decisions on matters requiring accountability. This human-AI partnership creates a feedback loop where human decisions help train and improve AI systems, while AI insights expand the scope and sophistication of human decision-making.

## Areas of insurance where the human-AI partnership is well established include:

**Claims Processing.** Claims processing showcases perhaps the most mature human-AI collaboration. In life insurance, AI systems can rapidly verify death certificates, cross-reference policy details, and process straightforward beneficiary claims within days rather than weeks, while flagging cases requiring investigation for potential fraud or policy contestability issues. For complex claims, human adjusters take over, conducting investigations, negotiating settlements, and providing the personal support that distressed policyholders need. This tiered approach dramatically reduces processing times for simple claims while ensuring complex cases receive appropriate human attention when policyholders need it most.

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**Customer Service.** Customer service has evolved into a sophisticated handoff system. AI chatbots and virtual assistants handle routine inquiries -- policy value questions, beneficiary changes, loan requests, premium payment processing, illustration requests, and beneficiary designation forms -- available 24/7. When conversations involve complex product features like living benefits riders, surrender charge calculations, loan interest implications, or become emotionally charged during discussions about terminal illness or estate planning, the system seamlessly transfers to human agents who can access the full interaction history. These agents provide the personalized guidance and emotional intelligence needed for life's most important financial decisions.

This hybrid model delivers efficiency for transactional needs without sacrificing the service quality and human connection that life insurance and annuity customers expect during pivotal life moments.

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**Underwriting.** The human-AI partnership in underwriting is revolutionizing traditional workflows. Machine learning models now analyze diverse data sources -- electronic health records, prescription histories, motor vehicle reports, credit data, and even wearable device information -- to build sophisticated mortality and longevity risk profiles that go far beyond traditional rating factors. Natural language processing extracts insights from attending physician statements and medical records, accelerating what once required weeks of manual review. Predictive models identify risk correlations in applicant health histories and lifestyle factors that conventional underwriting guidelines might miss, enabling more accurate risk classification and faster decisions on straightforward cases.

However, experienced underwriters remain essential. They interpret AI-generated risk scores for applicants with complex medical histories, override algorithmic recommendations when their expertise identifies nuances the model hasn't encountered -- such as stable, well-managed chronic conditions or unusual lab results with benign explanations -- and make judgment calls on emerging risks like novel treatments, genetic testing results, or pandemic-related health impacts where historical mortality data provides limited guidance.

Underwriters also ensure that AI recommendations align with actuarial principles and regulatory requirements, validate that patterns represent genuine mortality or longevity relationships rather than data artifacts, and provide the human touch needed when explaining decisions to applicants or agents. For high-value cases or when applicants have unique circumstances, underwriters conduct thorough case reviews that blend algorithmic insights with decades of professional expertise, ensuring the company appropriately balances competitive pricing with sound risk selection.

# Human-AI Partnership Concerns

The human-AI partnership is not without challenges. Ensuring AI systems operate fairly requires constant human vigilance. Algorithms trained on historical data can perpetuate past biases in pricing or coverage decisions with continuous iterations. Human oversight committees must regularly audit AI outputs, testing for discriminatory patterns and ensuring models comply with insurance regulations that prohibit unfair discrimination based on protected characteristics.

Transparency presents another challenge. When AI systems make decisions affecting coverage or claims, insurers must balance the competitive advantage of proprietary algorithms with customers' right to understand how decisions are made. Human professionals serve as translators, explaining AI-driven decisions in accessible terms and providing recourse when customers dispute outcomes.

The workforce transition requires careful management. Insurance companies are investing heavily in reskilling programs, helping employees move from roles being automated to positions requiring uniquely human skills—complex problem-solving, relationship management, ethical oversight, and AI system training. This transition demands empathy and support from leadership, recognizing that technological change can be destabilizing for workers who've built careers around processes that are now being transformed.



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## The Road Ahead

The human-AI partnership represents a fundamental transformation in how insurance work is performed, how value is created, and how responsibilities are allocated and governed. For today's insurers, success requires moving beyond viewing AI as merely a productivity tool and instead reimagining work as collaborative activity where humans and AI systems contribute complementary strengths.

The future of the life insurance workforce lies not in choosing between human expertise and artificial intelligence, but in continuously refining their collaboration. As AI systems become more sophisticated, they'll take on increasingly complex analytical tasks, but the need for human judgment, empathy, and ethical reasoning will only grow. The most successful insurers will be those that thoughtfully design systems where humans and AI each contribute their unique strengths.

The human-AI partnership represents more than operational efficiency – it is a fundamental reimagining of how insurance serves society, combining technological power with human wisdom to better protect people and businesses against life's uncertainties.

**For more information on how Sapiens' AI-powered, integrated business solutions help life insurers adapt swiftly to market change and stay ahead of the curve, click [here](#).**

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