From AI pilots to AI powerhouse: Building the insurance enterprise of tomorrow

Turn fragmented experimentation into a unified strategy that accelerates performance, drives growth, and delivers organization-wide impact.

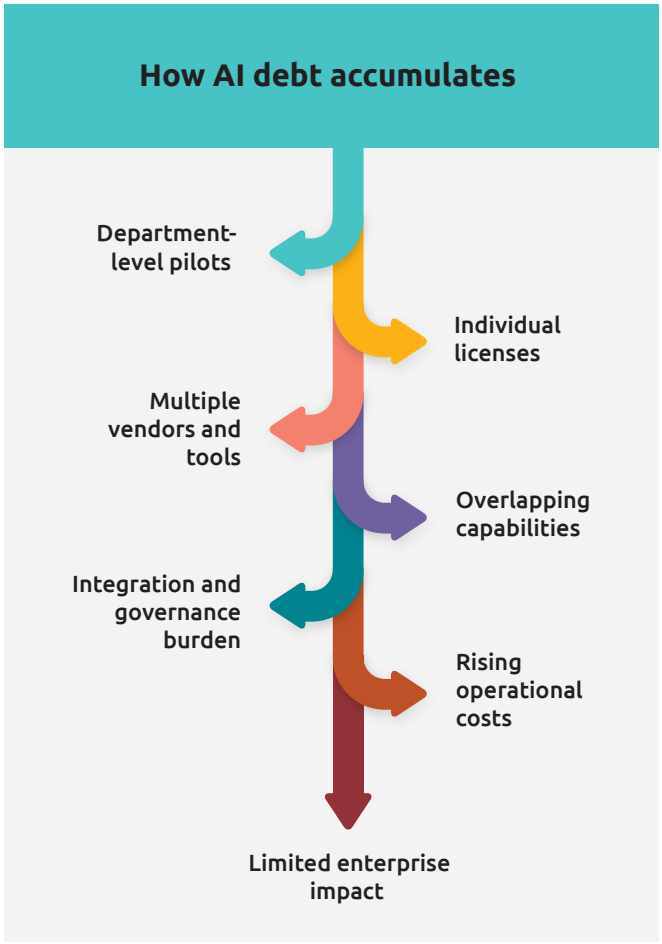
Artificial intelligence (AI) initiatives are being deployed at an accelerated speed across insurance organizations. Yet many carriers are discovering that experimentation alone doesn't produce real transformation. Without a single, organization-wide AI strategy, initiatives multiply faster than they deliver value, creating a new form of operational risk known as AI debt.

Just about every division within an insurance organization is being tasked to investigate the impact of AI, and plan for its adoption. Underwriting teams are experimenting with document summarization, claims departments are piloting automation initiatives, IT groups are evaluating enterprise AI licenses, and business intelligence teams are deploying models to improve reporting and analytics. It's estimated that generative AI alone could unlock $50 billion to $70 billion of insurance industry revenue[1], with the highest impact on marketing and sales, customer operations, and software engineering dimensions. The goal is clear: improve efficiency, reduce manual work, and enhance customer experience.

But the Return on Investment (ROI) for AI can be diluted without a solid strategy in place. That's because AI experimentation is following the same fragmented path laid down by legacy insurance systems – and life insurers recognize it all too well. Multiple Policy Administration Systems and claims systems can quickly stack up, accumulating through sporadic acquisitions, a disconnected strategy, or just bad investments. The tendency is for each team to optimize for its own department's needs, with few initiatives connecting across the value chain.

Today, AI experimentation risks repeating that same pattern. Without a unifying architecture, what looks like AI innovation can easily become a new kind of legacy debt. The result is often what organizations informally call "pilot purgatory." You now own multiple licenses for the same platform, with different tools performing similar tasks. Underwriting, claims, and new business pilots continue – but only in their own lanes. The way the enterprise operates barely changes. Even when individual use cases show a decent ROI, total costs often rise. The result? Integration work expands, governance grows, and vendor management increases.

1. Fortune Business Insights, "AI in Insurance Market Size, Share & Industry Analysis, By Application (Claims Processing, Customer Service, Underwriting, Fraud Detection and Others), By Deployment (Cloud and On Premise), By Enterprise Type (Large Enterprise and SMEs), By Technology (Machine Learning, Natural Language Processing (NLP), Computer Vision and Others), and Regional Forecast, 2026 – 2034;" March 11 2026.



Without the right strategic intent to apply AI, experimentation increases costs and accelerates coordination work without delivering measurable value. Meanwhile, competitors that adopt integrated AI operating models begin to move ahead. More importantly, pilot purgatory distracts the organization from larger strategic priorities, and AI becomes another layer of technical debt instead of a driver of change.

Why simply adding AI to existing processes falls short

The underwriter's job has always required reading large volumes of material and extracting relevant details to populate a risk profile. Today, AI can ingest and summarize that information in minutes. When less time is needed for entry-level data retrieval and applications, more time can be spent analyzing that data, applying judgment to it, and advising insurers and brokers through the increasingly complex underwriting process.

The problem is: many insurers are superficially applying AI to existing workflows, rather than holistically reimagining them with the new dimensions that AI can unlock. History offers a useful parallel. During the Industrial Revolution, manufacturers didn't simply introduce machines to perform the same tasks more quickly. They reorganized production around new capabilities. Roles changed. Workflows were rebuilt. Assembly lines were redesigned.

Insurance is at a similar inflection point today. If a given process remains anchored in the old model and the sole aim is to run it faster or more efficiently, the opportunity is limited. Instead, reinventing the process around the new capability is what moves the needle and improves outcomes with new technologies.

Take claims, for example. Extracting key information from a 200-page medical report is no longer a time constraint. Monitoring decision accuracy, managing exceptions, and maintaining empathy with beneficiaries can become central instead.

AI isn't a layer to be placed on top of legacy workflows. Its true benefit will come from fundamentally rethinking how work is structured across insurance organizations – and how AI can improve those workflows and processes. Otherwise, each organization simply digitizes its old, legacy operating model. Without a true mindset shift, applying AI to insurance processes is more likely to exacerbate existing inefficiencies than eliminate them.

3 steps to AI-first operations for insurance

Unlocking the true value of AI transformation requires moving from fragmented experimentation to an AI-first operating model. That holistic shift begins with re-evaluating roles, then processes, then platforms – and crucially, establishing a thorough understanding of how each works before mapping out potential changes. Although counterintuitive, starting with the point closest to daily tasks, then zooming out to gain a broader perspective of organizational operations, is the way to build AI into your workflows and systems.

Step 1: Audit roles, tasks, and departments

Underwriters, claims professionals, sales professionals and client support services each have defined responsibilities and performance metrics goals. Before selecting the right technologies – like AI, automation, and more – insurers will want to audit how each role, task, and department functions today and then build out a vision for how each could work in a best-case scenario, aided by technology. Where time is currently spent, where friction exists, and which activities directly influence departmental Key Performance Indicators (KPIs). Only then can organizations determine how those roles can evolve in an AI-first environment.

Ask the following questions:

- Where can efficiencies be created?
- Which activities could be done more efficiently?
- Which activities could become more valuable to the organization?
- Where must a human stay in the loop?

Manual data entry and repetitive document review often decrease significantly as AI systems handle large volumes of structured and unstructured information. At the same time, other responsibilities become more important. Monitoring outputs, managing edge cases, escalating risk, and applying professional judgment all become more significant as AI is embedded into daily workflows.

This exercise also clarifies the work that remains fundamentally human. Empathy, communication, and contextual judgment can't be delegated to machines – particularly in areas like insurance claims where policyholders may be navigating sensitive life events. While AI can accelerate information processing and reduce administrative burden, people remain essential for interpreting context, building trust, and making final decisions.

Step 2: Reverse-engineer workflows

Once the future state of each role and task is defined, workflows can be rebuilt. This means examining microprocesses across intake, underwriting, fraud review, claims adjudication, and customer communication.

Not every task requires advanced generative AI. Multiple technologies are available, and each should be considered within the broader workflow. Existing fraud models still matter. Robotic Process Automation (RPA) continues to play an important role in structured tasks, like data transfer and rule-based processing. Machine learning (ML) can support scoring and detection. Agentic AI can orchestrate interactions across systems. Large Language Models (LLMs) can summarize unstructured content. Automation can help adjudicate simple claims with speed. The goal is to connect capabilities, not engage one tool to replace everything else.

For example, medical intake for a claim may combine document extraction using LLMs, cross-validation through agentic AI, and existing fraud scoring models, while a human remains in the loop for final decision making. AI is part of a coordinated toolset, not the solution every step of the way.

Step 3: Align on a multi-pronged organizational strategy

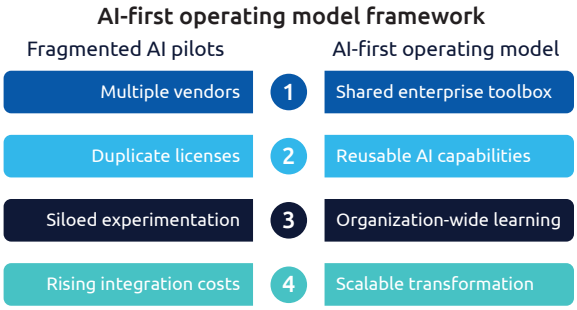
The final step is to align on an approach to orchestrate the entire organization's AI pilots, tools, and frameworks. One approach could be a unified platform that provides the foundation for reusable agents, multiple LLMs, shared governance, and opportunities to capitalize on lessons learned across the organization. As AI use cases mature within individual departments, an orchestration platform can provide cross-pollination opportunities across teams like underwriting, claims, new business, and billing.

That's why multiple markets, business units, or value chain teams have so much to gain from establishing interoperability with their existing systems, governance capabilities, data security requirements, and the ability to support multiple AI approaches simultaneously.

The cost of inaction

Standing still comes with a heavy price tag. Imagine: separate teams continue licensing the same tools, cybersecurity exposure expands as more systems interact with sensitive data, and IT capacity is absorbed by maintaining multiple pilots. Meanwhile, hard-earned lessons only benefit those who experienced them – all while technology costs soar and vendor management needs grow. Most importantly for the C-suite, the ROI from the new AI initiatives is nowhere near projected – neither for dollar savings, nor efficiency gains. The way the enterprise operates barely changes.

Meanwhile, AI investment is quickly becoming table stakes across the industry. Competitors are starting to roll out AI-first operating models and realize measurable Profit & Loss (P&L) impact. Clients and distribution partners increasingly assume you're using AI to improve responsiveness, accuracy, and decision making in your work with them. Organizations that lag behind in AI development risk falling out of step with rising expectations across the value chain.



Insurers that remain tied to manual processes and disconnected AI pilots may find themselves with lower operating costs in the short-term – but limited capacity to truly innovate over time. They will also miss the larger opportunity that accompanies organization-wide technological progress: the ability to shift their time to focus on higher-value work. When AI handles routine document analysis, teams can focus on product innovation and developing new policy structures that meet emerging customer needs. Instead of spending hours reviewing documentation, teams can apply their expertise to research, portfolio strategies, and designing new offerings.

The next step is turning AI discovery into an operating infrastructure that delivers sustainable enterprise impact.

Turning AI investment into operational change

Investment in AI alone doesn't create organizational transformation. Without an enterprise thesis and a clear AI-first operating model, experimentation can generate AI debt. At the same time, building and sustaining advanced AI capabilities in-house is becoming increasingly difficult. AI technologies, tools, and architectures evolve rapidly. Maintaining expertise across LLMs, agentic systems, ML, governance frameworks, and enterprise integration requires continuous investment and exposure to a wide range of real-world implementations.

This is where strategic partnerships play an important role. Firms like Capgemini bring large multidisciplinary teams that work across industries, internal departments, and technologies, continually refining implementation approaches as new tools and capabilities emerge. This broader perspective helps organizations determine which technologies to deploy, where they fit within the operating model, and when systems need to be updated or re-architected.

External partners provide flexibility that internal teams often struggle to achieve. A partner with a deep bench of specialists can scale expertise up or down as needed, bringing the right capabilities to each stage of transformation while helping firms avoid costly missteps.

Across the industry, AI implementation is already underway. The question is which insurers will lead that shift – and which will be left trailing.

Authors

Samantha Chow

Global Head, Life Insurance, Annuities, and Benefits Leader, Capgemini Financial Services

Samantha has over 20 years of experience in the L&A and A&H industries working for carriers in positions across the value chain, evaluating technology and consulting as an industry analyst, and leading the technology roadmap for policy administration systems.

Divij Chopra

Portfolio Lead – Life and Annuities Insurance, Capgemini

Divij Chopra is an expert in the global life, annuity, and benefits markets and leads Capgemini's Life and Annuities Insurance Portfolio for Global Insurance Business. He has deep expertise in driving the growth strategy through digital transformation, with a keen focus on distribution and marketing modernization, digital customer experience, intelligent insights, and experience innovation.

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