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GLOBAL ECONOMIC RISKS NAVIGATOR

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Foreword

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Successful insurers rely on rich data, deep analysis, and robust processes to guard against risks. This formula has worked well for decades. However, that is changing. Insurers and their policyholders have endured a series of unprecedented events and novel risks, dating back five years to the start of the Covid-19. Technological, geopolitical, and environmental changes have accelerated and shifted in unpredictable ways.

Insurers must now account for intense wildfires and large-scale natural disasters, sudden realignments of longstanding political alliances, and sharper awareness of society-disrupting disease epidemics in their normal course of business.

This introduces a new question: How can insurers provide desired coverage and remain solvent without relevant historical data, adequate time for analysis, and processes built for new technological, geopolitical, and climate realities?

The world has changed and will only change more rapidly. But the need for insurance — at both the human and enterprise scale — remains unchanged.

Delivering fair insurance products will continue to rely on good data, expert analysis, and robust processes. But delivering products that meet client expectations will also depend on new inputs such as digital modernization, appropriately leveraged artificial intelligence, enhanced customer experience, new product innovation, and agility rarely seen in insurance.

Policyholders and regulators alike have begun to demand from insurers more speed, clarity, agility, and trust. These requirements should not come as a surprise. Consumers and companies have been demanding this from other industries for years now.

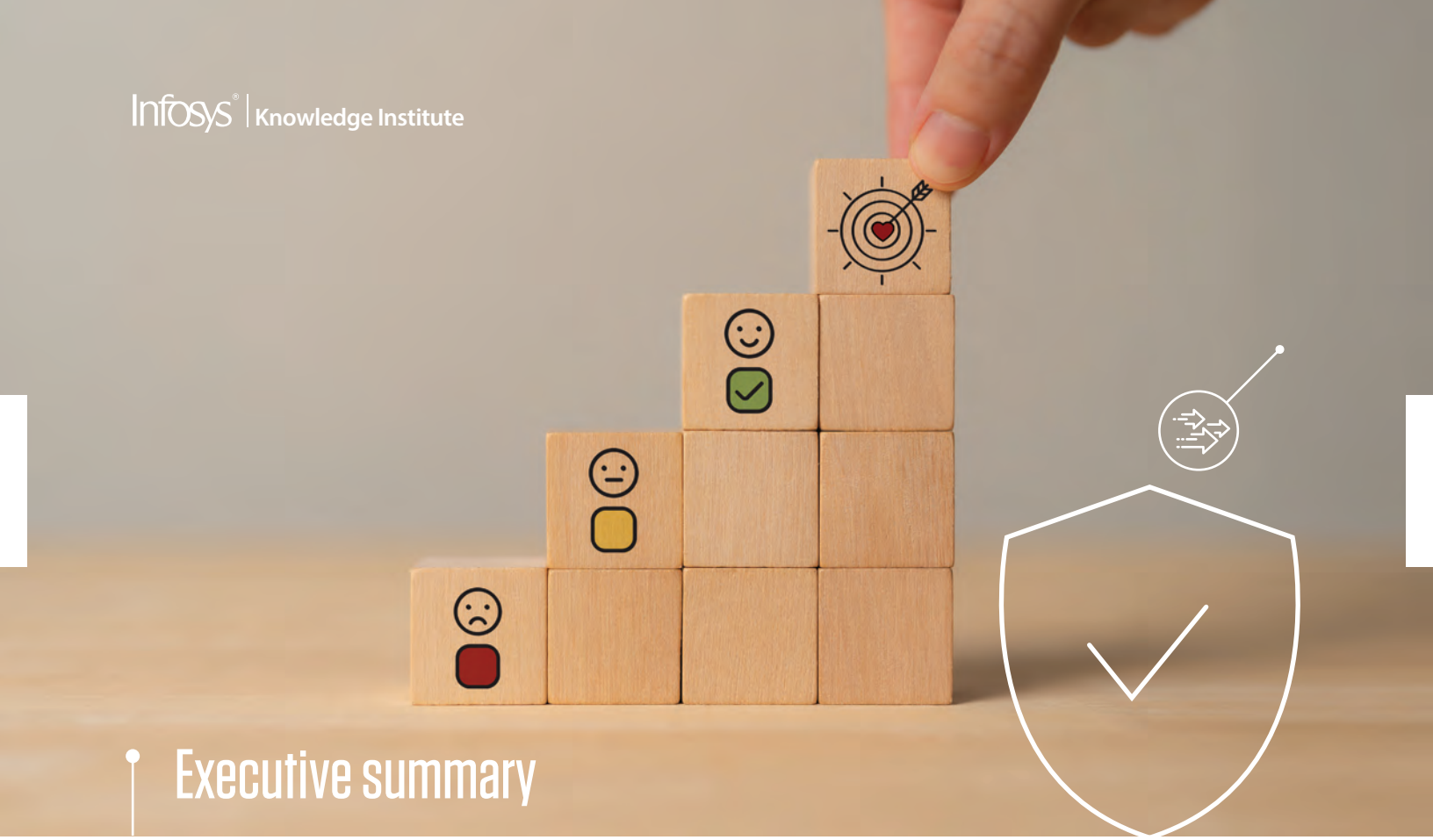
The reality is that insurance has operated in its own specialized manner so well for so long that it hasn't had to address more consumer or mercantile demands, until now. With bigger losses, higher insurance premiums,

and mounting criticisms from policyholders and politicians, that is soon to change.

Insurers need to demonstrate respect for clients by delivering fast, personalized customer service; fostering trust through clear, constantly updated processes; and winning new business through product innovation and personalization.

Insurers who commit to digital modernization and engage with AI and cultural change will deliver competitive coverage in the face of unprecedented events and accelerated change.

It is in this spirit of respect, service, and innovation that we seek to serve at Infosys. I hope you find that spirit in our journal, and that its insights help you respond to challenges and opportunities that will define the transformation agenda ahead. The journal ranges from data, AI, and emerging risks to new product innovation and customer experience. May they inspire bold actions for insurance in a rapidly changing world.



Executive summary

The global insurance sector stands at a crossroads. On one hand, property and casualty insurers have proved their value by paying out record sums in response to disasters on an unprecedented scale. On the other hand, insurers have received criticism for increasing premiums and dropping coverage in high-risk and high-cost geographies.

Insurance operates in a class of industries that are highly reliant on technology and data but tend to also depend on tried-and-true legacy systems. While insurers appear highly data-focused, they struggle to glean value from their rich data.

Because of their long history with data and process automation, insurers see its value. However, they have been slow to invest in advanced digital capabilities, data, AI, and automation.

A survey of insurance executives commissioned by Infosys for this journal shows that AI and data analytics will receive a small proportion of technology spending from insurers in the next two years. Enterprise cloud and business process improvement are forecast to receive the majority of insurance tech spend.

A perpetual tension in the insurance industry underpins these investment differences: Insurers know the critical role of data, but investments in data compete with business strategy and cost controls. Insurers have the best intentions of bringing this technology to bear on their data but are constrained by maintaining existing processes and controlling costs.

Rapidly advancing technology and fundamental shifts in risks and insurance customers will compel insurers to move

beyond tried-and-true tech to embrace new strategies and innovation.

Infosys has produced this inaugural insurance journal to share our insights and to offer strategic advice for insurers who are at the crossroads of new risks and emerging technology.

While generative AI and AI agents dominate discussions around emerging technology, the digital frontier offers insurers much more innovation potential. This journal covers six trends that we believe will be crucial for insurers in the next few years

1. **Data, AI, and insurance have the potential to reshape insurance disciplines**, with implications for productivity, customer service, fraud prevention, and personalized product offerings. Despite this, insurers have been slow to adopt AI and face barriers including legacy data infrastructure, regulatory complexity, and resistance from employees and other stakeholders.

2. **Emerging risks require a new approach and new technology.** Climate change and other emerging risks are driving the quest for ways to assess novel threats more accurately, develop new products, and service clients better. To complete this quest, insurers will need to adopt a more forward-looking approach to risk modeling while modernizing administration systems to deliver new products.

3. **Data-driven technology** has the potential to revolutionize the insurance sector by transforming interactions into longer term, highly personalized customer-centric engagements. Insurers that embrace AI's potential will not only evolve beyond their traditional roles but also become solution providers and partners, fostering more engaged and loyal consumers.

4. **Technology and data analytics** provide insurers the opportunity to enhance customer experience. This will help reduce client churn and boost satisfaction rates. Insurers should look to industries that have modernized more swiftly and learn from leading use cases to fully exploit emerging technologies.

5. **Is AI insurable?** As companies in all industries put AI to work in formalized processes and in shadow AI implementations, insurers must answer this question. The development of cyber insurance offers some guidance, but insurers, businesses, and regulators must also collaborate to build standards and frameworks for AI risk assessment.

6. **New technologies offer new ways to overcome persistent life insurance challenges.** Data analytics, machine learning, and other technologies create the opportunity to offer life insurance to previously uninsurable customer segments and catalyze the sale of life insurance products in new markets.

Chapter 1: Insurers must embrace cutting-edge technologies

- Data and artificial intelligence (AI) are set to reshape insurance, with implications for productivity, customer service, fraud prevention, and personalized product offerings.
- Despite this potential, the industry has been slow to adopt AI solutions, with companies facing barriers from legacy data infrastructure, regulatory complexity, and resistance from employees.
- To unlock the full power of AI, insurance leaders must balance human and technological investments — developing clear AI strategies, modernizing data systems, and upskilling their workforce.

Data drives the insurance industry. Insurers have long relied on huge volumes of information to assess risk, price policies, and process claims. Today, in the race to adopt AI and advanced data analytics, insurers have reached a critical juncture: Embrace these technologies to enhance efficiency, product development, and customer service — or fall behind competitors.

The potential of AI and data

AI and data analytics offer potential upside for insurers: They can streamline operations, detect fraud, and enable real-time risk assessment. This helps insurers personalize insurance products and meet growing customer demand for flexibility and responsiveness. They will also help

insurers navigate an increasingly complex risk landscape as companies grapple with growing challenges from climate change, geopolitical instability, and more.

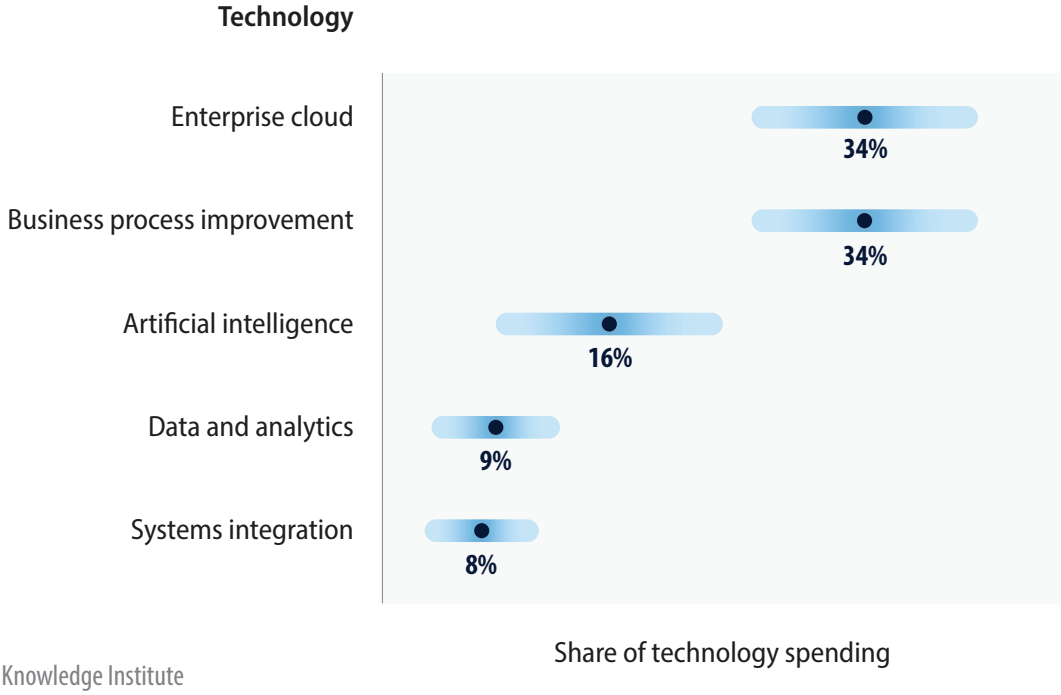
Adoption will be critical for insurance groups to stay competitive against more agile InsurTech disruptors, which are not as constrained by outdated legacy systems. Yet while insurance companies are beginning to leverage data analytics and AI tools for operational and product enhancements, uptake has lagged other industries, and scaling pilot programs to enterprise-wide strategies remains a significant hurdle.

Insurance businesses know data has to be front and center of their organization. Even as most insurers start with the best intention of focusing on data, the pressures of boardroom and cost invariably cause them to drift away from their original core requirement. Many groups still struggle with outdated data infrastructure, ensuring compliance with both existing and emerging data-specific regulations, and workplace cultures resistant to change.

Further, a recent survey of insurance executives by Infosys shows that AI, data, and analytics will receive relatively small proportions of technology spend in the next two years. (Figure 1) AI will get about 16% of tech spend, and data and analytics about 9%. Both trail behind spending on cloud and business process improvement, the survey found.

At the same time, these are both growth areas for insurance technology spending. The same executives flagged AI integration into insurance and data integrations as areas for

Figure 1. Insurers plan to spend less on data and AI than on cloud and process improvement



Source: Infosys Knowledge Institute

significant spending increase in the next five years (Figure 2).

For leaders, the challenge is clear: How can they harness the full power of AI, converting potential into real-world applications and a lasting competitive advantage? The answer requires insurers to do the following:

1. Set the right foundations by updating legacy data infrastructure.

2. Develop a clear data strategy, which outlines what the company wants to achieve from AI.

3. Foster trust and cultural change, to support advanced technology adoption.

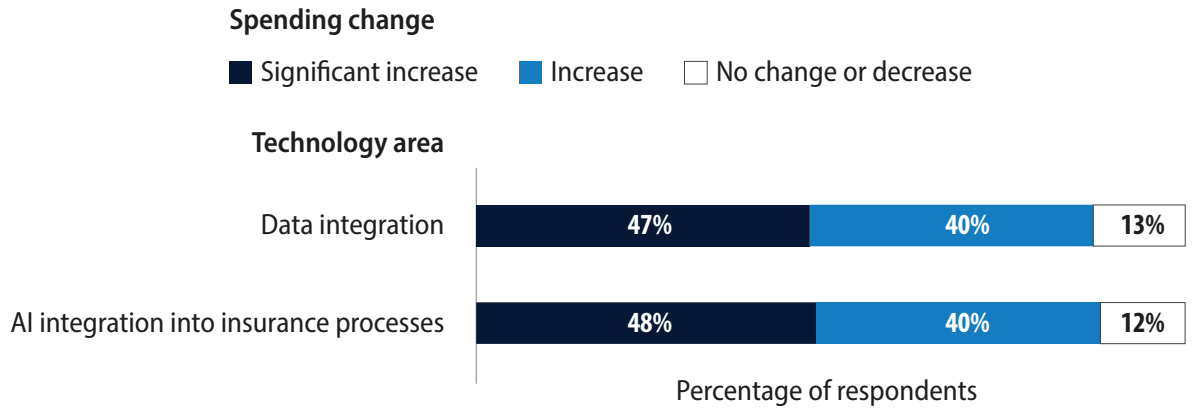
Key emerging trends

Several key trends are emerging as insurance companies identify the most valuable applications for AI in their business. The industry relies on vast quantities of unstructured data — such as legal documents, medical records, and photographs — to assess risk and process claims. AI excels at extracting, analyzing, and synthesizing this data. It can reduce the administrative burden on underwriters and claims adjusters, supporting faster, more accurate assessments and claims processing.

One example comes from hyperexponential, a pricing intelligence platform that draws on data and analytics to help underwriters rate risks and simplify complex pricing decisions. It allows insurers to build and refine customizable risk models, modernizing their pricing workflow. Elsewhere, Japan's Daido Life Insurance has built an AI prediction model for medical underwriting that uses AI to draw key data points from an applicant's medical records and provide a preliminary assessment to support the underwriter's evaluation.

In risk management and modeling, AI can be used to forecast future claims based on historical data, and analyze huge quantities of data to assess a company's risk exposure.

Figure 2. Nearly half project significant rises in spending on AI and data integration in the next five years



Source: Infosys Knowledge Institute

Insurers can use advanced AI techniques, such as synthetic data generation, to simulate rare events or emerging risks, like climate change-driven disasters, political instability, or cybercrime, where real-world data may be lacking or where privacy breaches are a concern.

A recent global survey by SAS, a data and AI group, found that 27% of insurers were already using synthetic data to enrich existing datasets. However, synthetic data is not without its challenges. As it is generated from real data, there are privacy implications, and biases inherent in real data are replicated and potentially amplified in synthetic datasets, potentially skewing assumptions from it.

Customer experience is another domain seeing AI-driven transformation. AI-powered chatbots now offer round-the-clock support, handling everything from basic inquiries to processing claims. In this domain, InsurTech companies such as Lemonade have led the charge, improving services by using AI chatbots to evaluate and settle claims in seconds. AXA, meanwhile, has launched an AI-powered roadside assistant, Max, to provide faster communication and support after breakdowns or accidents. It can provide replacement cars, answer questions, and book taxis for customers to continue their journeys.

AI and data analytics are also being used to fight insurance fraud. With insurance fraud costing the US economy, for example, up to $309 billion annually, AI is an essential tool to tackle the problem. By analyzing large datasets, these tools identify anomalies that might point to suspicious activity. Zurich Insurance Group, for instance, uses machine learning alongside other technology solutions to detect fraud. One AI system used by a company in Germany examines images and their metadata to check their authenticity and verify whether vehicle damage is consistent with the policyholder's account of an incident.

Beyond operational efficiencies, AI will also play a role in navigating complex regulatory challenges. The insurance industry was heavily regulated even before the emergence of AI. And governments recently have tended to further tighten regulations in reaction

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to cybersecurity, financial solvency, and consumer protection concerns. Consider the EU's Digital Operational Resilience Act (DORA), focused on increasing cybersecurity in services providers, or California's Consumer Privacy Act (CCPA), to name just two. This puts an increasingly heavy burden on companies, which find it challenging to continually update their compliance frameworks in step with regulatory developments.

AI-powered tools can automate regulatory reporting and monitor compliance issues such as sanctions breaches, price discrimination, cyberattacks, or fraud. Natural language processing (NLP) models can keep track of regulatory updates, flagging necessary policy adjustments. Properly trained AI models can draft explanations for automated decisions, helping insurers build trust and demonstrate compliance to regulators. Shift, a French InsurTech unicorn, for example, uses AI to detect fraudulent claims or check for compliance breaches.

AI also has the potential to revolutionize insurance products and services, delivering personalized and real-time offerings. By harnessing data from connected devices such as cars, internet of things (IoT) home sensors, and wearables, insurers can tailor their products to the specific needs of each customer, boosting revenue and engagement.

One example is Allstate, an American insurer, which uses telematics to collect real-time driving data, assessing behaviors such as speed, braking, and phone use to offer dynamic prices that reward safe driving. Root Insurance also uses a mobile app to measure driving habits and personalize insurance offerings accordingly. Meanwhile, insurers including AIA provide data-driven Vitality packages that offer a personalized health and fitness program to policyholders. These link to personal fitness devices to track members' activity and offer benefits to those living healthy lifestyles.

Barriers to adoption

Despite this potential across domains, the insurance industry has been relatively slow to adopt AI and advanced data analytics, continuing to rely on expert judgment over data-driven decision-making. Only 29% of insurance businesses surveyed in 2024 by Earnix, an AI-driven rating engine for the insurance industry, said that they were already using AI models, though 70% plan on deploying predictive tools in the next two years. Infosys research, meanwhile, finds that only around 2% of companies are ready to adopt AI. What is slowing adoption?

One major hurdle is the outdated data infrastructure that still underpins much of the industry. Insurance is inherently data-driven, relying on vast amounts of information shared between stakeholders. Yet many companies are hobbled by legacy systems, which hold this data in silos, making it hard to share across a business or integrate with AI tools.

There are several reasons for this legacy. A company might have acquired multiple systems through mergers and acquisitions or divergent approaches to data annotation and

governance. There are significant costs and expertise involved in migrating to modern alternatives. Some insurers also lack interfaces such as APIs, which facilitate seamless data exchange between departments, and the use of AI.

Whatever the cause, the consequences are serious. Legacy architecture and data fragmentation hinder technological development, create operational inefficiencies, and can lead to inconsistent decision-making if leaders struggle to gain a full picture of a company's operations. Infosys research found that only 9% of companies across all sectors are technologically prepared to adopt AI, accounting for capabilities such as flexible infrastructure and integration with AI frameworks. Only 17% have the necessary data readiness.

Next, regulatory uncertainty remains a barrier to digital transformation. While AI and data analytics can help insurers meet the growing compliance burden, regulatory complexity conversely deters many companies from adopting those tools. This is particularly a concern for heavily regulated incumbents, which must be certain that new tools meet stringent requirements before rollout. Almost two-thirds — 64% — of insurance CEOs say that complex regulatory developments have made them feel less confident about investing in new technologies. Those concerns are not unfounded: Earnix research from 2024 showed that almost half of insurers reported having to pay a fine or issue refunds during the previous year due to operational errors.

Similarly, leaders express concerns about AI and trust, in the form of ethical risks, including bias and hallucinations. If tools are trained on biased or misleading data, they can discriminate against customers, which in turn poses reputational and financial risks to companies. It doesn't help that many insurers lack robust internal standards on the ethical use of AI.

Infosys research shows that only 21% of companies in different sectors have the governance processes in place to reduce AI risks. That is a concern, since companies

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with strong ethical oversight and bias-management capabilities report higher satisfaction and trust in their data and AI tools. In the insurance industry specifically, 59% of decision-makers are anxious about generative AI ethics. Only 5% describe their organization's AI governance framework as "well-established and comprehensive."

Another challenge comes in the form of cybersecurity. While AI can enhance fraud detection and security, it also introduces new vulnerabilities to attacks and data privacy. Some 85% of insurance CEOs view cybersecurity risks as a major concern, with almost one-third (32%) concerned about rising threats and 24% highlighting the vulnerability of their legacy systems, according to KPMG.

Finally, there are more human considerations. Talent shortages are a perennial concern; only 35% of companies across sectors have employees with the requisite training and skills to implement AI.

Externally, many consumers might have reservations about sharing more data with insurers in return for personalized policies. Internally, insurers also face resistance from employees. Theirs is a human business, based on the relationships forged by brokers and underwriters.

For companies that have been putting deals together based on personal relationships for decades, shifting toward AI-based decision-making is a big cultural leap. Professionals can be resistant to technologies that are seen to threaten their jobs or way of doing business.

How to manage the transition

Despite these hurdles, insurers need AI and data analytics to stay competitive. The transition will not happen overnight. It will be measured in years, not months. Instead of a big bang approach, insurers should focus on incremental, strategic adoption that builds AI capabilities and trust over time. By beginning that transition now, they will remain competitive in the future.

First, insurance leaders need a clear vision of how AI and data analytics will drive business value — something that many are just beginning to consider. Fewer than a quarter of companies across all industry sectors have AI strategies in place to ensure resource availability, define clear use cases, or prepare businesses to sign off on AI projects. Changing that will be critical. Investments must be aligned with broader company objectives — whether that is boosting productivity, developing personalized product offerings, or streamlining claims processing.

AI strategies should encompass technology investments, talent acquisition, and ethical AI frameworks. Companies should also create responsible governance guardrails, enforced by a centralized AI team, to reduce the risks of hallucinations, bias, data theft, or cyberattacks. Research suggests that those with a well-defined AI strategy achieve three times the revenue growth of peers. Putting data and data governance at the center of an AI strategy is key to achieving success.

Next, companies should use strategy

to inform how to modernize their data infrastructure.

AI's ability to enhance decision-making is only as good as the data it learns from. Functional tools rely on data accuracy and accessibility. Leaders should start with a thorough assessment of legacy systems, their interoperability, and their capacity to run AI applications. The next step is consolidating fragmented data on a single platform that covers all lines of a business. Data lakes — centralized repositories that store structured and unstructured data — offer a solution by allowing companies to pipe data from different systems into a single, accessible location. Data standardization and quality improvements will be needed, in addition to those infrastructure investments, to ensure that information is accurate and consistent.

But technology is only part of the equation; preparing employees for the AI transition is equally important. Leaders must take time to create a cultural change, bringing their workforce along with them. They should address concerns about AI, showing how it will support career development and augment human expertise, rather than replace it.

One way to do this is to emphasize AI's role in reducing administrative burdens. Presenting it as a helpful assistant, which frees up underwriters to focus on higher-value and client-facing work, is likely to drive greater adoption across a company. Crucially, companies need to ensure ambitious technology adoption comes not just from a CEO, but from the senior and middle levels of management responsible for overseeing its implementation. A top-down approach to AI adoption is not likely to work if there is resistance in the ranks.

Much work remains on the adoption front: Research from Infosys suggests that only 43% of companies across sectors have fully prepared their employees for AI. And only 21% say their employees have the requisite knowledge to adopt AI tools and techniques — highlighting the gap between ambition and execution.

Upskilling employees will be critical to the success of AI and data strategies. Insurers need AI specialists to train models, including small language models geared to industry-specific applications, and ensure appropriate regulatory compliance. With AI specialists costly and in high demand, insurers will need to develop talent internally and build partnerships with external vendors. Those that cultivate AI expertise will have a significant competitive advantage.

These educational and skills components are often undervalued by leaders. Many companies view AI as a quick-fix solution but fail to invest in the talent or capabilities needed to maximize returns from their investments. A successful AI strategy is built on more than just cutting-edge technology — it requires clean, accessible data and a highly skilled and motivated workforce. To unlock the full potential of data and AI, companies must balance human and technological investments, setting strong foundations before chasing the adoption of applications.

Chapter 2: How insurers are responding to emerging risks

- Climate change and other emerging risks are leading insurers on a quest for ways to assess novel threats more accurately, adapt products accordingly, and serve clients better.
- The search has sparked a tech-driven transformation of insurance and a forward-looking approach to risk modeling, assessment, analysis, and mitigation.
- The modernization of administration systems is allowing insurers to develop new products, such as parametric insurance and dynamically priced policies, to meet client needs in new and ever-more complex threat scenarios.

Emerging risks

The deadly wildfires that raged in Los Angeles in early 2025 highlight how emerging classes of risk are bearing down on insurers and the communities they are meant to protect.

Climate change is the big one, but artificial intelligence (AI), pandemics, and new geopolitical threats are also important. Some of these threats are so big, so ubiquitous, or so difficult to assess that they threaten to become uninsurable. In other cases, premiums have become so costly that policyholders are reducing or even canceling coverage.

Even before the Los Angeles wildfires, seven of the top 12 insurers in California had paused or restricted new business in the state. Florida, Louisiana, and other states exposed to hurricanes and rising sea levels are also

experiencing rocketing premiums and the nonrenewal of policies.

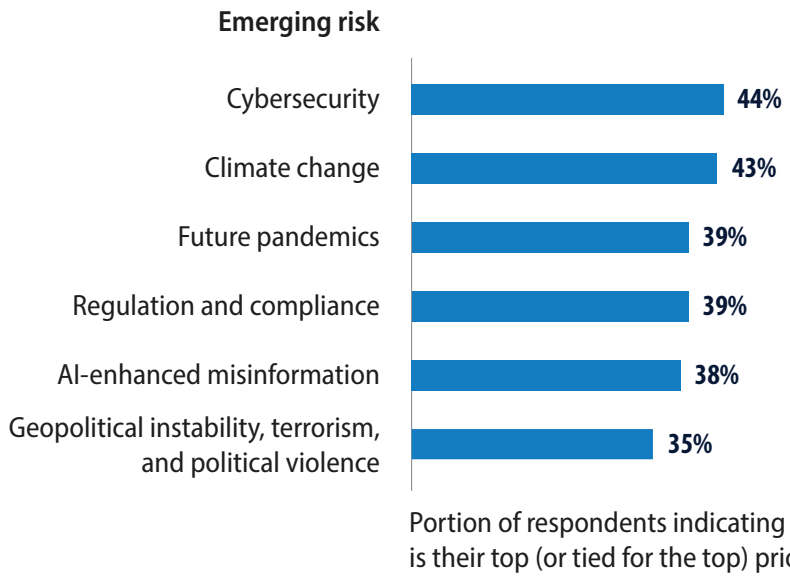
Worldwide, extreme weather events caused losses of $320 billion in 2024, of which around $140 billion (43% of the total) were insured, according to Munich RE. Early estimates put the damage and economic losses from the Los Angeles fires at $250 billion.

Extreme weather and other catastrophes — war, pandemics, acts of terrorism — were once considered tail risks, or rare events that cause outsize damage. Insurers knew how to handle them. The problem is that the nature of these events is changing. Wildfires, floods, hurricanes, drought, and heatwaves are now more frequent and destructive. This makes historic data a poor predictor of future events.

AI, robotics, AI-fueled hacking activities, and other emerging technologies come with their own risks, and, as with climate change, there is no historic data. And insurers express concern about all emerging risks, they have no clear view on which one is most pressing (Figure 3). Emerging AI risks include data contamination and biases in outcomes that violate regulatory requirements. In the AI context, legal, copyright, and product liability risks have already emerged. Nearly every major generative AI company, including OpenAI, Meta, Microsoft, Google, Anthropic, and Nvidia, is being sued by content publishers for alleged copyright infringement. Last year, Air Canada was found liable for a chatbot's bad advice. In the US, parents are suing Character.AI, a developer of chatbot companions, for alleged harm to their children.

A second complication is that emerging risks are interacting with each other, compounding the dangers to insurers and their clients. A warming planet is increasing the frequency of climate disasters and also

Figure 3. Insurers have no clear agreement on which emerging risk is their top priority



Source: Infosys Knowledge Institute

helping spread vector-borne diseases such as dengue and malaria, increasing health risks. Deepfakes, manipulated text, images, and video generated by AI tools, are being used to perpetrate business fraud and undermine geopolitical stability.

A third problem arises when a risk is considered too big to insure. This is the case with pandemic risk, which is largely unavailable in the wake of Covid-19. The pandemic triggered a wave of business interruption lawsuits against insurers, who refused to pay out for losses incurred during government-mandated lockdowns. In the UK, as many as 370,000 policyholders were said to have been affected. The dispute went all the way to the Supreme Court, which ruled in the plaintiffs' favor. In the US, courts have so far sided with insurers. By definition, lockdowns impact everyone, and the insurance industry is not built to withstand the equivalent of a run on the banks. Certain forms of climate risk could be next.

The full implications of an uninsurable world are just beginning to filter through. Insurance is a cornerstone of personal security and economic stability. It helps people and businesses recover more quickly after disasters. It reduces the need for government intervention. If a growing number of emerging risks become uninsurable, the long-term effect on economies could be massive.

A US Senate Budget Committee report in December 2024 spells this out. It explains that if home insurance in climate-risk areas becomes unaffordable or unavailable, then banks could refuse mortgages to property buyers. "This is predicted to cascade into plunging property values… with the potential to trigger a full-scale financial crisis similar to what occurred in 2008," it concludes.

Emerging responses

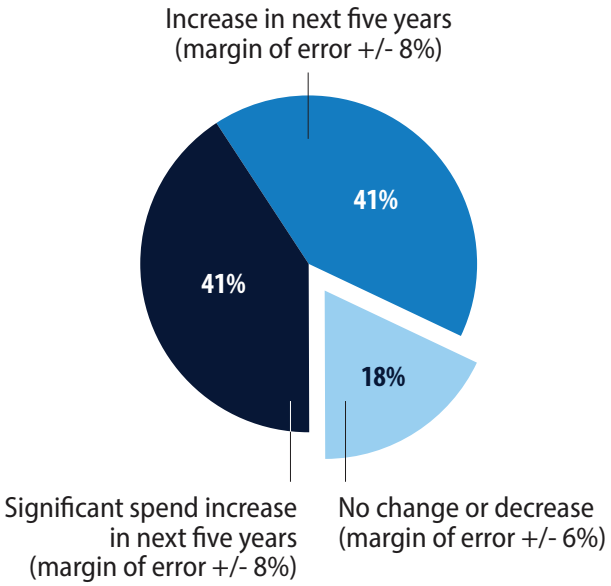
When risks begin to resemble certainties, they stop being insurable. That is why property insurance has become so costly, or unavailable, in climate-risk areas and why pandemic exclusion clauses are now the norm for business interruption policies.

Withdrawing coverage is the nuclear option — it also kills your market. Instead, insurance companies are mitigating their exposure to emerging risks in ways that allow them to retain clients and profitability.

The search has sparked a belated- tech-driven transformation of insurance. A 2025 survey conducted by Infosys found that 82% of insurers intend to increase or significantly increase their technology spending to address emerging risks. This tech-spend acceleration coincides with the need to modernize traditional insurance services, meaning insurers are simultaneously seeking tech innovation and core system upgrades. That said, the same respondents are slightly less likely to increase tech spending on emerging risks (Figure 4).

The path, however, is not straightforward and the pace of innovation has been slow. A 2023 Deloitte survey of life and annuity insurers, for example, found that more than half of respondents had embarked on core system modernizations, but only 12% had completed

Figure 4. Heavy spending to stay on emerging risk



Source: Infosys Knowledge Institute

them. Infosys research shows technology for emerging risks is challenged in competing for technology spend. AI and product innovation will be receiving higher proportions of insurance technology spend in the next two years, insurance executives told us.

Regulatory obstacles, legacy systems, and worries about data breaches and privacy violations, particularly in relation to third-party integrations, stand in the way of faster transformations.

At times, regulation has been an active deterrent to innovation. In California, for example, state regulations dating back to 1988 forbade insurers to factor in future climate risks when pricing home and business insurance premiums. Insurers could only use historic data, rather than predictive modeling, to justify price increases. The rule was revoked only in January 2025, after many insurers had paused business in the state.

Despite these obstacles, the direction of travel is clear. The industry understands that the modernization of policy administration systems (PAS), the tech stack that manages the entire life cycle of policies, from quoting and underwriting to billing and claims processing, holds the key to innovation on other fronts.

Innovate to mitigate

Given the novelty of some emerging risks, the industry is experimenting with a number of approaches to mitigate exposure. This innovation spans products, processes, and partnerships as the industry seeks to become more agile and accurate in the way it models, prices, and manages emerging risks.

New products that are helping to mitigate emerging risks include:

Parametric insurance: This is a new class of index-based insurance products that pay out claims based on a predetermined trigger, such as a particular level of rainfall, temperature, or wind speed.

Unlike traditional insurance, parametric insurance is supplemental and does not indemnify policyholders against their actual losses. Advocates like the fact that it is based on objective, measurable data, which reduces the scope for legal disputes and enables faster payouts. Parametric insurance is now available for a wide variety of risks, including

hurricanes, earthquakes and for crop protection and business interruption. And it is proving popular.

Parametric insurance now accounts for 12% of global premiums for crop and livestock insurance, compared with 3% in 2009. Some studies estimate the market for parametric products could nearly double in size, from $18 billion in 2023 to more than $34 billion in 2033.

One example is the Caribbean Catastrophe Risk Insurance Facility (CCRIF). It was the first multi-country risk pool backed by a parametric policy and it protects Caribbean and Central American governments from cyclones, earthquakes, and excess rainfall. Since 2007, the facility's payouts have been disbursed within two weeks of the trigger event. Such timeliness is critical to help communities recover quickly from natural disasters.

In the US, meanwhile, regulators have struggled to reconcile trigger-based payouts with the need for comprehensive property and flood insurance. New York approved parametric products as an authorized line of business in December 2024, although the amendment to the state's insurance law says clearly that parametric products must not substitute more traditional forms of insurance cover.

Dynamic pricing: Popularized by ride-sharing services, hotels, and airlines to balance supply and demand, dynamic pricing is now possible in insurance thanks to machine-learning models that calibrate risks and underwrite policies in real time based on data collected from connected devices. Insurers are now applying the same principles to emerging risks.

Post-Covid, Lloyd's of London, the world's largest reinsurance market, sees businesses "seeking more flexible coverage with dynamic risk-pricing that reflects their real-time risk profile."

This is particularly relevant for shipping, when navigating through conflict zones or traversing a spate of heavy weather. Dynamic premiums move with the level of risk involved. Loadsure, an InsurTech in the UK, for example, offers data-powered, AI-priced risk management to the freight community. Customers can upload the Loadsure platform to their own transport management systems. This allows the insurer to generate a risk score for every shipment. A premium can be generated based on a specific shipment on a specific day for a specific transit.

Dynamic pricing is also being applied to extend insurance cover for wildfires and other extreme weather events. In the US, Munich RE developed a digital underwriting solution, Firebrand, for an Excess & Surplus carrier (a specialty insurer for risks standard carriers won't cover) that wanted to provide wildfire insurance coverage in the California homeowners' market. The solution provides high-definition wildfire risk scores and a dynamic pricing engine that allows for rapid changes in risk assessment. It is an example of how technology is helping insurers to provide coverage to communities which would otherwise remain unprotected.

Premium discounts for risk reduction and climate adaptation: Insurers now offer discounts for policyholders who take active steps to climate-proof their properties, such as reinforcing roofs, strengthening foundations, installing storm shutters, and building with fire-resistant materials. Incentives are also available for homes and businesses that adopt energy-efficient practices.

Supply-chain risk coverage: Complex supply chains are vulnerable to business interruption, and their resilience has been tested many times in recent years. Disruptions caused by Covid-19, natural disasters, and cyberattacks all lead to substantial claims against insurers and reinsurers. Such disruptions exposed a significant gap in the insurance market. Traditional business-interruption policies, for example, do not pay out without a physical loss — as was the case during government-mandated lockdowns.

Since the pandemic, reinsurer Hannover Re sees more supply-chain interruption (SCI) insurance products in the market, but says they remain expensive and often demand "prohibitive risk data requirements." Transparency and a deeper knowledge of supply chains are necessary to create tailor-made solutions, it says.

Event contingency insurance: Another post-pandemic innovation is event cancellation and nonappearance insurance that specifically includes geopolitical risks (war, terrorism, nuclear and biological attacks, political violence), weather-related risks, and communicable diseases. AXA, for example, offers these policies for all types of events, including sports, conferences, exhibitions, theatrical productions, and concerts.

AI risk policies: For AI developers, specialist insurers such as Armilla have begun to offer third-party liability, financial, and legal defense coverage related to the performance of AI models.

Tech to tame emerging risks

These mitigating products and solutions rely on better use of data, technology, modeling, and scenario planning. Together, they give insurers a more granular view of risk. They can also inform more accurate and timely underwriting and pricing models.

In the commercial insurance space, third-party data related to supply chains, inventory, and even labor-force stability is being used to assess risk. For climate risk modeling, third-party providers now offer geospatial data from satellite imagery to monitor climate risk areas in real time. Given the magnitude of climate threats, it's no surprise that the market for climate analytics is booming. By 2027, the global market for climate risk solutions is projected to grow to more than $4 billion from around $880 million in 2021. However, both a lack of common standards and regulations make the accuracy and efficacy of these tools difficult to assess. Unless explainability is explicitly built in, the inner workings of proprietary models remain opaque because their structure, inputs, and assumptions are not open to outsiders. This has made insurers cautious about integrating third-party analytics.

Scaling back risk exposure

Transferring risk is standard practice in the insurance industry. Reinsurance exists for precisely that reason. But the scale of climate catastrophes is such that reinsurers are scaling back their exposure. S&P, the ratings agency, estimates that more than half of the top 20 global reinsurers maintained or reduced their natural-catastrophe exposures during the 2023 renewal season. If insurers cannot cover their climate risks, what hope is there for businesses and individuals?

With market options narrowing, insurers are exploring innovative risk-transfer concepts. One idea put forward by the California Department of Insurance is community-level insurance. By pooling shared risks, such policies would guarantee that all residents have some degree of coverage. They could also be used to provide financial incentives for community-wide investments in risk reduction, especially nature-based solutions.

Another proposal is to identify communally owned assets and use parametric insurance to provide incentives to increase their resilience. "Insurance mechanisms that act earlier, providing incentives or even anticipatory funds to reduce the ultimate impact of a disaster, could strengthen resilience and encourage early investments in resilience across public and private actors," the report says.

In addition, there are many proposals for public-private partnerships to share the burden of risks that are becoming too large to underwrite independently. The UK's government-backed Pool Re terrorism reinsurance scheme is a pertinent example, illustrating how a buffer can be created between taxpayers and insurance risks.

Following the pandemic, Lloyd's of London recommended the creation of a government-backed industry pool to reinsure systemic risk from pandemics and other forms of business interruption that don't entail physical losses. The proposal is still under discussion.

Mounting losses are evidence that insurers have not been able to transfer all emerging risks. Stress-testing is expected to shed light on risks hidden in their investment portfolios.

A more complex future

The future of insurance will be shaped by an entirely new set of risks — those brought on by rapid technological advancements and their intersection with climate, demographic, and geopolitical dimensions. Insurance companies will have to innovate and adapt to meet these emerging challenges.

However, the pandemic proved that some emerging risks are too big for the insurance industry to tackle on its own. Climate change might be next. There are ways in which the industry can leverage technology and work with third parties, regulators, and government to deliver a better response.

Technology that integrates proprietary data with external data and analytics is now available to give insurers a more granular view of risk. Predictive models can help insurers assess and price future risks more

accurately. Modern policy administration systems are needed to integrate these new tools and to offer new products such as parametric insurance and dynamic policies.

But technology is not a silver bullet. Insurers must be aware of modeling error and uncertainty. Federal agencies should develop guidelines to gauge the accuracy of climate risk and catastrophe models. There are also no comprehensive federal laws in the US that directly regulate AI.

Mitigating emerging risks is not just a task for insurers. In a highly regulated industry, gatekeepers must not become barriers to innovation. More agile approvals for new products, processes, and risk methodologies would be helpful. To deal with climate risks, governments could be doing more to curb carbon emissions. City planners need to update land-use policies and building regulations to contain fire and flood hazards. Some cities, like Miami, are already investing in climate adaptation.

New ways must also be found to share risks more broadly. Bringing in the capital markets via the issuance of catastrophe bonds, for example, has been proposed as a tool to allocate risk across a broader set of stakeholders.

Organizations should also take great care and conduct regular risk assessments as they embrace this new world.

> “The future of insurance will be shaped by an entirely new set of risks — those brought on by rapid technological advancements and their intersection with climate, demographic, and geopolitical dimensions. Insurance companies will have to innovate to meet emerging challenges.”

Chapter 3: Data drives highly personalized customer focus

- Data-driven technology brings the potential for insurers to advance from transactions with customers to longer-term, highly personalized customer-centric engagements.
- Data integration, hyperpersonalization, and customer segmentation are fundamental to this transformation and will bring significant opportunities to a sector traditionally dogged by resistance to technological change.
- Insurers that embrace AI's potential will evolve beyond their traditional function as capital providers and claims payers to become solution providers and partners for life, reaping the rewards of more engaged and loyal consumers.

Consumers demand better

Technological and data innovation, powered by artificial intelligence (AI), is transforming what is possible in health insurance, life insurance, and annuities.

This cutting-edge technology is further driven by strong consumer demand for better service and custom-tailored products.

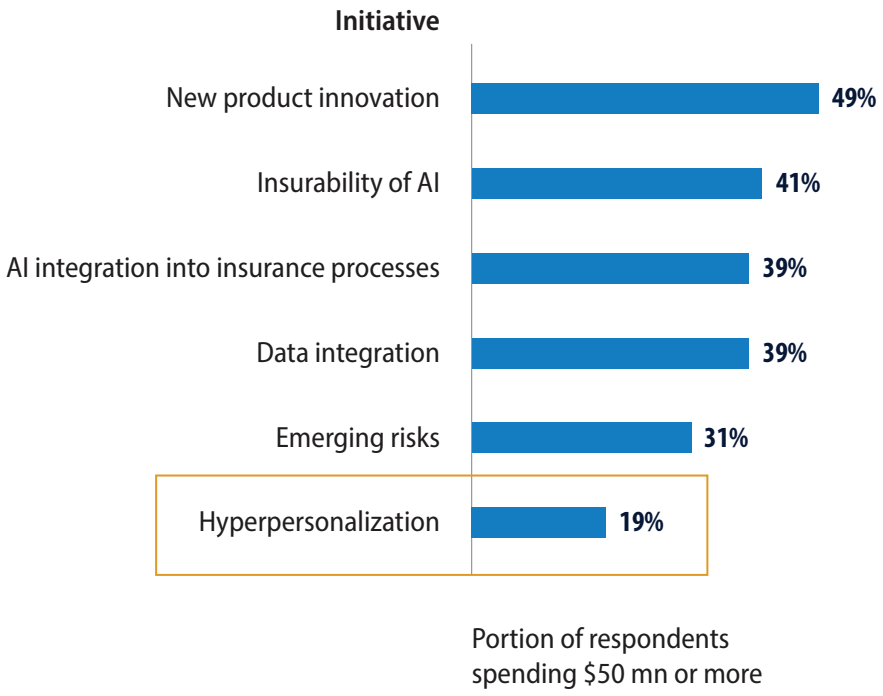
A McKinsey report found that 71% of consumers expect personalization, with 76% frustrated when they don't get it. A second survey found that an increasing number of customers — up from 36% in 2019 to 51% in 2023 — are purchasing policies to meet broader financial planning purposes, such as vehicle funding, retirement income protection, tax planning, and long-term care. The result is an industry that is shifting from

a more traditional, narrow portfolio of one-size-fits-all financial security and healthcare coverage products toward broader, more holistic well-being offerings.

Advances in data integration, hyperpersonalization, and customer segmentation are making these changes possible. Integrating datasets allows insurers to develop interconnected building blocks for their operating models. Hyperpersonalization enables the creation of the personalized products and services consumers are demanding. Retail and entertainment businesses, including Amazon, Netflix, and Spotify, have profited from this approach for years. Data integration, meanwhile, allows more sophisticated customer segmentation. Combining all three gives insurers a deeper understanding of customer needs throughout their careers and personal lives.

Despite this, insurance executives surveyed by Infosys allocated hyperpersonalization the smallest proportion of technology spend share when they evaluated six transformational areas for insurance (Figure 5). That said, 88% of the same executives

Figure 5. Hyperpersonalization receives the smallest technology spend share from insurers



Source: Infosys Knowledge Institute

said they intend to increase spending on hyperpersonalization in the years ahead.

Although the insurance sector has generally been slow to embrace technological change, some companies have been swift to recognize its potential and have invested aggressively. In the latest rankings of generative AI patents by the World Intellectual Property Organization, for example, the Shenzhen-based insurer Ping An is second with 1,564 — the only insurance company to make the top 20. A recent survey on value-adding AI investment underscored the technology opportunity, noting that 97% of business leaders whose organizations were investing in AI reported a positive return on investment (ROI). A survey of insurance executives by Infosys found that 89% said AI has achieved or will achieve ROI, specifically in the life insurance and annuities space.

In data we trust

Insurance companies have long sat on mountains of data about customers and their lives. This data is the foundation of innovation — but data alone is not enough to bring about change. Holding data in silos has historically prevented the development of whole-customer understanding and insights, limiting efficient customer service and restricting value by impeding cross-selling opportunities. AI-powered integration of disparate datasets now creates the prospect of new interoperable ecosystems, products, and tools. These include predictive analytics, the ability to optimize pricing, and more precise customer lifetime needs and value estimation. Through leveraging data analytics, companies gain new insights into customer behaviors and are better able to deliver enhanced customer service in a digital ecosystem.

For example, Brazil's largest independent insurance company SulAmérica integrated data from 17 separate systems to create a single record for each customer. SulAmérica identified more than 21 million records, 20% of the total as duplicates in the process. Purging the duplicates and creating a single overarching record for each customer has enabled finer and more personalized targeting, as well as improved customer service responsiveness.

New York Life Insurance Company, the largest mutual life insurance company in the US, wanted to improve underwriting efficiency while retaining quality. Integrating and enhancing data from over 400 data repositories across 50 cloud and on-premise systems resulted in a tiered data-governance model. This quickly generated value by enabling New York Life to fine-tune risk assessment, improve operational and underwriting efficiency, accelerate application processing, and strengthen compliance processes.

The lessons are clear: Insurers must get their data in order to harness these new, AI-enabled opportunities.

Keeping it personal

"Know your customer" is a timeless business adage that is more possible and profitable today than ever. Hyperpersonalization is

not just a reality, but a fast-growing market. In 2023, the global hyperpersonalization market was valued at $19 billion, and forecast to grow at 15% annually until 2033, when it is expected to be worth $75 billion. Personalization is profitable too. A survey revealed that 80% of business leaders say it boosts customer spending, with a substantial uptick of up to 38%.

AI-powered hyperpersonalization is already delivering more flexible and personalized insurance products. AXA, the multinational insurance company, uses AI-powered personalization across its health, life, and annuities businesses to tailor coverage, improve its underwriting, and enhance customer engagement.

AXA's personalization model has already transformed its car insurance business. It has trained its deep learning model with historical data from 1.5 million customers to predict large traffic accidents, optimizing policy prices while also reducing claim costs. AXA's model assesses 70 key input variables, such as driver age, vehicle details, and claims history. This generates a risk score of the probability of the customer having a significant traffic accident, which can be used to adjust the insurance price.

The result? AXA has increased the predictive power of its model from 40% to 78%, creating a far more accurate risk assessment with pricing personalized accordingly. The new model provides AXA a real advantage to optimize insurance and claims costs and opens the door to new insurance services, including real-time pricing at point of sale.

Of course, enhanced customer benefit is the main driver. AXA's personalization model furnishes customers with more relevant insurance coverage, potentially lower premiums through personalized risk assessment, swifter claims processing, and settlement, and improved customer service.

More companies are leaning into personalization to take advantage of these benefits. Vitality Group is creating a global data-science ecosystem with transferable models and capabilities that enable hyperpersonalization at scale. Its health insurance plans for people with chronic conditions, such as diabetes, offer "next best actions" such as linking glucometers or ordering medication. Plans can also be customized with a range of optional extras, including mental health cover and therapies cover.

Oscar Health, the disruptor US health insurance provider, has become known for its hyperpersonalized approach, using individual health data, medical history, lifestyle information, and customer preferences to offer highly bespoke insurance plans. These include tailored recommendations for specific medical services such as vaccinations and screenings, as well as wellness programs suited to individual needs.

Customizable life insurance products are also accelerating, with increasing underwriting for term policies that don't require medical tests or an examination. This enables individuals with pre-existing health conditions such as heart disease, diabetes, and cancer, which can make obtaining medically underwritten

insurance tricky, to quickly find the coverage they need. Beagle Street, the UK-based life and critical illness insurer, and Aflac, a US supplemental insurance provider, are among the growing number of companies offering simple, affordable life insurance based on self-certified medical details.

This trend is anticipated to intensify, with insurers expected to engage with consumers using ever-increasing levels of personalization. Insurers who don't are likely to pay the price — through increased churn and low adoption rates.

Know your customer

Customer segmentation used to be limited to the most basic markers, such as age, gender, and income. Not anymore, as AI is expanding segment sophistication and detail. This trend will continue and deepen, eliciting ever-finer understanding of attitudinal and behavioral patterns to benefit insurers and individuals alike. Customer segmentation will enable more timely and relevant engagement with consumers about new offerings and support the uptake of services included in their plan.

Advanced analytics will enable insurers to identify customers with greater probability of retention. This will allow them to adopt a more tailored and profitable price optimization strategy by understanding how sensitive existing clients are to changes in product prices. The Swiss reinsurer Swiss Re has developed an AI-driven model focusing on premium-rate sensitivity. This allows it to identify customers more likely to renew their policies despite price increases and determine the optimal price point for each customer segment. At the same time, Swiss Re's customer needs are met through a system that uses customer segmentation, behavioral analysis, message optimization, and reinforcement learning to understand and anticipate individual attitudes and motivations.

Ping An, which provides health management services to over 19.5 million customers and senior care services in 75 cities across China, uses its AI platform Good Doctor to collect extensive data on user health behavior, medical consultations, and treatment outcomes. This data enables customers to be segmented according to age, health needs, engagement levels, and risk profiles, providing the basis for personalized health plans and insurance offerings.

Market segmentation is based primarily on the technology used by vendors, such as insurance software providers DXC, Verisk, and AdvantageGo, and will allow Lloyd's, the London-based insurance market, to tailor its engagement strategies for different groups it creates, as well as address specific needs and challenges, such as data access and quality and integration difficulties. Here too, retail consumers further downstream stand to benefit through faster transactions, streamlined claims processing, lower premiums through more accurate risk assessment, and improved customer experience.

Data-enabled segmentation will continue to generate significant potential for upselling and cross-selling. FWD, the Hong Kong-based

digital-first insurer, has been a pioneer in well-being offerings, which have already been rolled out to over 13 million customers in 10 markets. Launched in 2024, FWD HealthyMe promises to leverage the latest developments in health technology and research to offer diagnostic services alongside comprehensive accident and health insurance.

A rewarding business

But customers don't just want insurance for when things go wrong. They want to be rewarded when things go right. According to a survey, 59% of consumers globally want insurers to reward them for healthy living.

Insurers who have heard that message and responded most innovatively have profited from it. The data-driven Vitality Active Rewards program integrates wearables and health apps to personalize insurance policies based on customers' health and lifestyles. Collecting data on diet, physical activities — including walking, running, and cycling — and generating rewards and discounted premiums to nudge them toward healthier lifestyles, it "encourages and rewards you for living well." Health-related activities such as going for a check-up also earn points. Aligning policy costs with actual risk benefits both insurer and customer. The program has been so successful that it is now licensed to insurers around the world, including Generali, Ping An, John Hancock, and Vitality Health in the UK.

Companies that are prepared to push for change and evolve beyond the traditional function of insurers as capital providers and claims payers to become solution providers and life partners are those that will reap the rewards. Success will require patience and sustained application. Investment in new technology, with systems that offer personal advice and diversifying services, could take several years to bear fruit. The shift will likely introduce new business models and a dynamic ecosystem of partners that insurers will need time to adapt to.

> "A growing number of companies are offering simple, affordable life insurance based on self-certified medical details. This trend is anticipated to intensify, with insurers expected to engage with consumers using ever-increasing levels of personalization. Those that don't will pay the price."

Insurance with purpose

While AI and data-driven technology are advancing personalization, consumers will continue to demand more from their insurers. A recent survey of nearly 30,000 consumers in 14 countries revealed that 80% want insurers to embed environmental, social, and corporate governance (ESG) initiatives into their offerings.

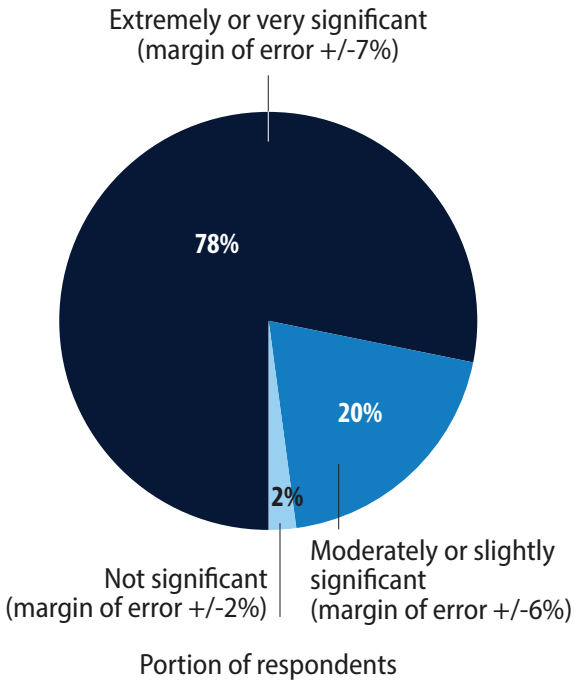
To be successful and add value, insurers will need to demonstrate flexibility and be responsive to these dynamic customer expectations. However, historic challenges continue to hinder progress.

First, legacy technology and integrating outdated systems remain key impediments to digital transformation across an industry that has traditionally been slow to innovate. AI might be the essential next step forward for the industry, but many players have yet to take it. AI adoption is accelerating across the sector, with 70% of respondents to an Earnix survey saying they are planning to implement AI models that use real-time data predictions within the next two years. However, most companies still aren't prepared for AI, with only 2% fully ready, according to Infosys research. All too often, data remains in silos, preventing holistic understanding of consumers and their personal preferences and requirements. There are 21st-century solutions available, but 20th-century practices persist.

Second, compliance and regulation will continue to trouble insurance decision-makers. The Earnix report laid bare the increasing compliance challenges insurers face, with more than 50% of the 400-plus executives surveyed in 2024 reporting that their companies incurred fines or issued refunds due to operational errors. Stiff regulatory regimes, such as Solvency II, IFRS 17, GDPR, FINRA Rule 2330, and New York's Regulation 187, will demand leadership time and negotiation. Insurance executives surveyed by Infosys this year flagged regulation and potential legislation as significant barriers to digital transformation they face. Only financial constraints rated higher (Figure 6).

Third, data governance, transparency, ethics, and accountability will require constant vigilance. Best practices need to be designed into the new AI-enabled digital ecosystems.

Figure 6. Regulation and potential legislation are barriers to digital transformation



Source: Infosys Knowledge Institute

Insurers will need to plan strategically and manage finite resources with care. There is no substitute for good data governance and regulatory attentiveness.

How to unleash potential

The value of AI applied to insurance processes is estimated to hit $45.7 billion by 2031, up from $2.7 billion in 2021. Technological innovation will remain essential to overcome historic challenges, especially legacy systems, but it bears emphasizing that AI is not a silver bullet. To derive significant productivity gains from AI, companies will need to take five key steps, as follows:

1. Develop a comprehensive AI strategy.
2. Institute responsible AI governance.
3. Upskill talent.
4. Prepare data infrastructure for AI.
5. Instill a culture of technological innovation.

Additionally, insurers need to keep it personal. They should engage with and educate consumers on financial literacy, healthy behavior, and much broader, more holistic well-being, to meet shifting consumer demands. The new relationship is longer-term, more personalized, and less top-down. Advanced data management systems are indispensable in the quest to improve personalized engagement. Companies must recognize (their customers), remember (customer history), recommend (the right offerings), and be relevant (at the right time and in the right context).

Data remains critical. Those insurers that have yet to take the leap should prioritize data-integration solutions, a prerequisite for the data sharing and analysis required to generate a more holistic understanding of consumers and their dynamic needs. As 78% of global life insurers report, data readiness is the biggest challenge to gaining value from AI.

Distribution channels will emerge as a key battleground for innovation. Insurers will need to look beyond traditional insurance channels, such as tied agents, independent agents, and brokers. Taking a cue from innovators in banking and other financial services, insurers should explore opportunities to collaborate with new partners to integrate insurance services in other consumer-facing platforms. A Chubb report, which reveals that 56% of consumers across North America, Latin America, Asia Pacific, and Europe are interested in purchasing more insurance, also demonstrates how digital disruption can generate strategic growth opportunities through embedded insurance.

Health and life insurance enterprises will have to navigate this AI-enabled, data-driven journey with care, putting customers and their dynamic requirements front and center at all times. The rewards for doing so will be considerable, with the potential to unleash far-reaching and long-lasting benefits for both insurers and those who are insured.

Chapter 4: Modern tech improves the customer experience

- Insurance companies are turning to technology and making better use of the vast amounts of data they hold to improve customer satisfaction rates and stem client churn.
- They are beginning to apply advanced technologies and data analytics across every area of the insurance process but are not yet maximizing available opportunities.
- Making more effective use of available and emerging technologies means taking inspiration from industries that have been faster to digitalize and keeping abreast of use cases developed by pacesetters in insurance.

Keep the customer satisfied

Customer satisfaction among insurance companies is falling at the fastest rate since 2008. As they act to reverse the declines, insurers are discovering that the right technology helps reduce churn, increase revenues and margins, and meet compliance challenges. Estimates by McKinsey suggest that AI technologies alone could add up to $700 billion of value a year from more efficient pricing, underwriting, and policy promotion, as well as more personalized offerings.

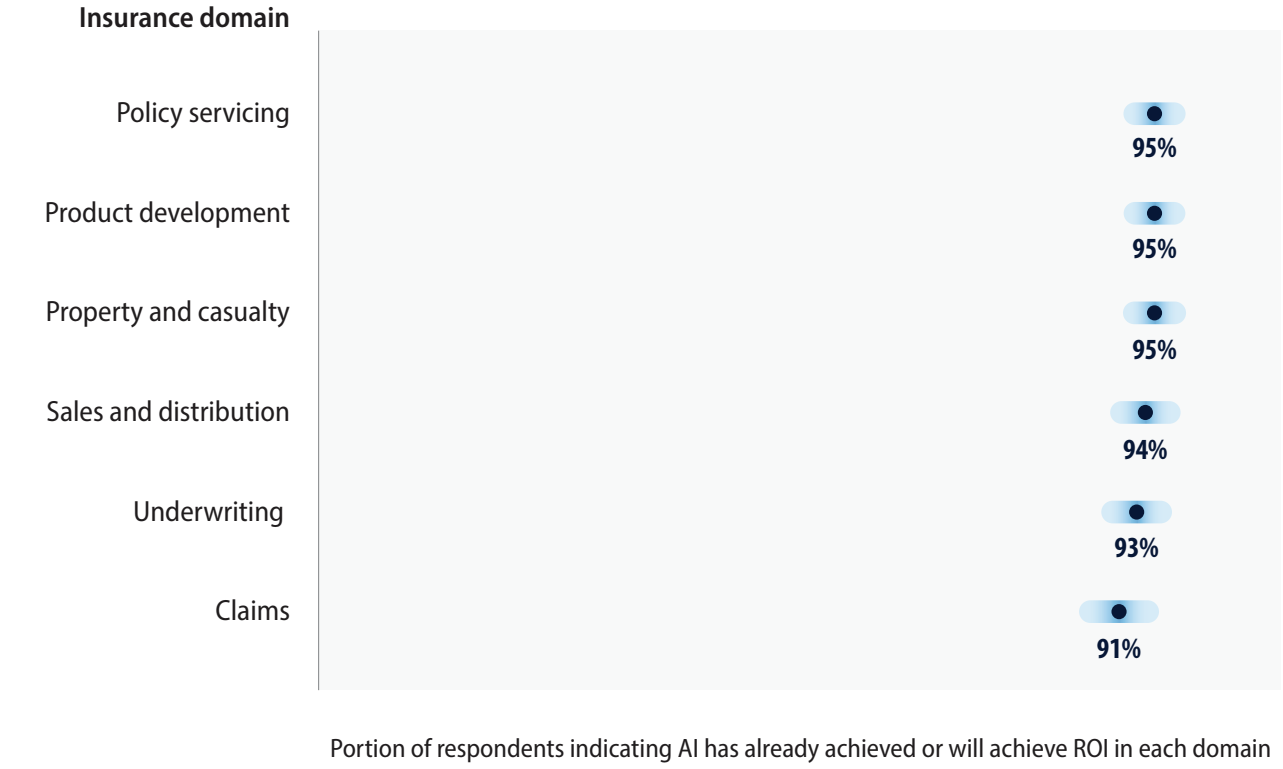
The insurance industry holds an abundance of value-adding data about people, their assets, and their habits, yet it has been slower

than others to digitalize and exploit this, equating change with risk. In the face of higher expectations and lower satisfaction from customers and general increasing economic uncertainty, the sector has reached a tipping point, and innovation is required to not only survive but thrive.

Customers are restless because they have come to expect top-notch services in other sectors. Retailers in particular have invested heavily in technology to please consumers — Amazon, for example, can now fulfill some orders on the day they are placed. These high expectations leave the insurance industry in an unflattering light, elevating churn rates. In addition, rising costs, skills shortages, and increasing competition, along with customers and regulators demanding more transparency on price and decision-making, are also having a significant impact.

Indeed, regulatory pressures loom large in insurance and ensuring compliance is costly, as well as onerous. Privacy and security requirements for personal data collection and processing, for example, are covered by the General Data Protection Regulation (GDPR) in Europe and legislation such as the Health Insurance Portability and Accountability Act (HIPAA) in the US. But well-targeted and well-monitored AI plays a role in enabling companies to be more proactive on compliance matters, helping them stay on the front foot by monitoring upcoming changes to regulations, summarizing

Figure 7. Insurers are confident that AI will achieve ROI in customer-facing disciplines



Source: Infosys Knowledge Institute

official documents, scenario modeling for different regulatory changes, and suggesting adjustments to workflows and processes.

Given all of this, McKinsey's estimated $700 billion of added value from AI is not surprising and is significant when put against the global industry's annual premium total of some $8 trillion in 2024. Moreover, a recent survey of insurance executives conducted by Infosys finds that the industry's leaders already strongly believe investing in technology will deliver returns in the next three years across the insurance value chain (Figure 7).

Insurers are already applying data analytics and tools powered by AI to increase efficiencies with the aim of making customers happier in six core areas:

1. Sales and distribution
2. Product development
3. Underwriting and risk
4. Product administration
5. Claims
6. Back office

The right technology

With the right technology, insurers can automate parts of the sales and distribution process — the core of any successful company — cutting costs and increasing revenues through greater efficiency. The right technology can also help customers better understand the product cover they are being offered and assist agents in tailoring products to customers.

For example, predictive analytics, which uses existing data such as response rates to forecast future trends, can improve the timing of customer communications and the channels they are delivered on.

For one Singapore insurer, an "ever-learning engine" for sales that generates the most appropriate combination of lead, agent, and product helped boost adviser productivity by 25%, adding 5 to 6 percentage points to business growth.

Generative AI, which can create new content, is already being used to produce marketing and sales materials that can be quickly personalized by agents. For example, Zurich Customer Active Management, a data analytics company owned by Swiss insurer Zurich, is using AI to create stronger offers with more personalized approaches. Allianz, meanwhile, uses AI models to analyze customer data and produce bespoke recommendations. This has increased retention rates and customer satisfaction by offering them more relevant coverage options.

When it comes to compliance, AI has already proved its ability to check contracts and policies for irregularities at speed. AI can also simplify the language to make sure what's being offered is clear and up to date with any changes in regulations.

The net result is new marketing channels to

reach new customers, tailored outreach to better meet customer needs, reduced risk of compliance failures, and lower costs.

However, there are risks to the use of generative AI, including hallucinations — when an AI model produces false and misleading information. Data provenance and potential biases introduced into models through the datasets it was trained on are additional complications. Models are trained on historical claims data, which can embed past discrimination on the basis of race or gender. However, you only need to ask AI to produce a picture of a CEO or nurse to understand the biases it embeds. These risks need to be managed carefully.

One reinsurer, for example, has expanded the number of datasets it uses to analyze risk for life insurance to minimize the risk of one data indicator skewing results. Another mitigation approach is to train models with trusted in-house data. Additionally, hallucination-specific processes including frameworks and mitigation strategies are now being designed to help companies assess risk. It also helps to adopt an AI strategy that relies on successive waves of use cases, testing and learning as you go. But in all cases, humans need to be firmly in the loop to check outputs are accurate.

Better product development

Data analysis of customer behavior and preferences allows for improved segmentation, aligning coverage and premiums with individual needs. It can also be used to help map customer life-cycle management, timing renewals for the best chance of gaining customer attention and getting them to act, as well as meeting regulatory obligations. Meanwhile, natural language processing, which allows computers to understand written or spoken language, can be used to enhance customer support through chatbots and generate personalized policy recommendations.

Other useful technologies include vector databases, which store data in related clusters enabling low-latency querying. This opens up multiple data types — including

> With the right technology, insurers can automate parts of the sales and distribution process — the core of any successful company — cutting costs and increasing revenues through greater efficiency. The right technology can also help customers better understand the cover they are offered.

sensor data, text, images, and audio — to simultaneous searches. Generative AI enables faster iterations of policy and price, as well as making hyperpersonalization at scale viable.

US InsurTech Lemonade, for example, uses Cooper, dubbed its internal automation brain, to manage workflows between product development, engineering, automated testing, and review stages. Meanwhile, Italy's Generali has been using big data analytics and data from Internet of Things (IoT) sensors to develop predictive pricing for car and home insurance based on usage. These policies show promise in lowering costs. According to one US auto insurance study, technology enabling usage-based automobile insurance could save up to 30% on premiums, as well as 55% on claim-handling costs.

Faster processing

A study found that up to 40% of underwriters' time is spent on noncore administration such as manually inputting data rather than assessing risk — an estimated efficiency loss of up to $160 billion over five years.

Human error is also costly, compounded by the enormous number of variables underwriters can draw on.

AI, machine learning, and business rules engines can do much of this work at speed and are already helping to assess risk more accurately. This opens the prospect of underwriters becoming more strategic. Japan's Daido Life Insurance is innovating in this field, with an AI prediction model that visualizes the decision-making process and enables medical underwriters to check risk against the AI's predictions as they are working. Zurich Insurance, meanwhile, uses generative AI to compile customized reports, offering deeper insights into risk trends, possible savings, and operational efficiencies.

The results include better risk models and faster analysis, cutting costs and improving margins.

One caveat, though, is regulation. Insurers using AI in underwriting processes must ensure outcomes are transparent, using models that can explain their decisions rather than being a black box that spits out results with no supporting evidence.

Improved asset management

Good product administration can increase revenue and cut costs. Unlike a one-off retail purchase, some insurance products (life, annuities) can last decades. Managing products over their entire life cycle is therefore important to ensure they meet customer needs and are competitive.

Technology can also improve asset management. Generative AI can assess daily changing asset values, including the performance of different accounts and surrender values. AI-powered predictive analytics, meanwhile, can support areas including policy management, billing, and premium scheduling, as well as collection, renewal, and endorsement.

And in customer-facing contexts, AI can be

used to track consent and manage access to ensure personal data is stored properly.

AI is also being used to power self-service portals where customers manage their own policies. Aviva's digital self-service platform, MyAviva, aims to improve customer engagement by providing a more personalized and accessible experience through a user-friendly digital interface. Its Zowie AI chatbot now handles 90% of inquiries.

Supercharged claims

Claims are perhaps the biggest bugbear among insurance customers, with a third of claimants in one Accenture survey saying they were not fully satisfied with their recent experience.

The length of time to a decision, refusals, confusion over policy exclusions, and poor communication all play their part. Technology, including process automation, machine learning, AI, and data analytics is being used to address these challenges.

Examples of technology in action include the UK's MetLife, which is using generative AI to help provide what it calls more empathetic support in sensitive discussions. Lemonade, a record holder for speed, settling an insurance claim in two seconds, uses generative AI to process more than 80% of its claims without human intervention, cutting costs and improving efficiency. Customer reviews are generally favorable, suggesting this is not causing any obvious issues or an increase in challenges.

Clearer terms and conditions can be generated by AI and explained to customers by agents supported by it. Claims resolution can be sped up by using data analytics and AI, with humans checking samples and dealing with alerts for fraud or noncompliance.

Omnichannel environments with multiple options for customer queries, including bots, text recognition, and guided scripts for humans, are also improving customer interactions. Progressive Insurance's omnichannel strategy, for example, is credited with improving customer satisfaction rates and loyalty, as well as driving growth.

Technology is also helping insurers more accurately identify fraud. Zurich is one insurer using AI in this way. In one case, it declined to settle a claim for damage to a car in a carwash after its AI tool uncovered a mismatch between the image and a description of the incident. Such analysis brings lower fraudulent payouts, while protecting insurers' reputations from the danger of a bona fide claim being wrongly investigated as fraud.

At the same time, AI is helping insurers run their claims departments compliantly. This includes processing checks to improve claims validation accuracy and checking that diagnosis codes and medical procedure codes meet accepted standards such as the World Health Organization's ICD-10 for death certificates, for example. It also covers carrying out full audits for reporting, instead of manually spot-checking samples, ensuring data privacy compliance — flagging unauthorized data access, for example — and anonymizing data where necessary.

Tech takes on tedious tasks

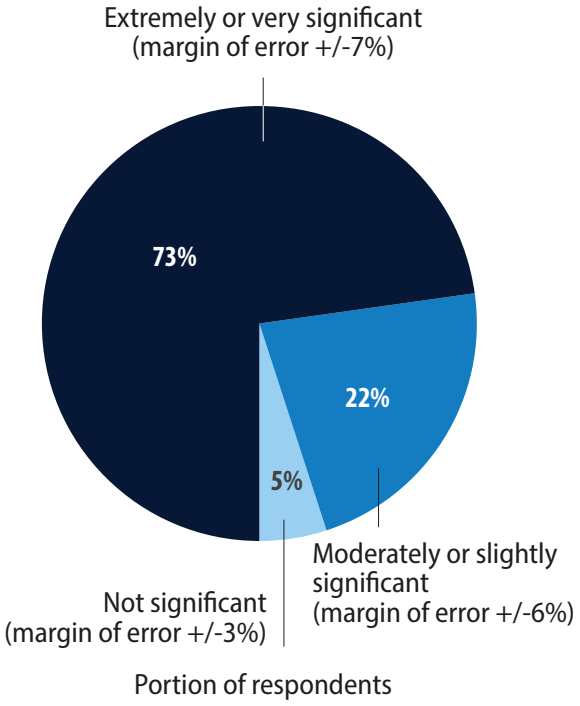
The insurance sector faces a looming skills shortage. According to estimates based on US Bureau of Labor statistics, 50% of insurance professionals will retire within 15 years, leaving more than 400,000 jobs open. Infosys's own research backs this up, finding that 73% of insurers are experiencing extremely or very significant skills shortages, creating a barrier to digital transformation that is second only to regulatory challenges. (Figure 8) In addition, many existing employees find their jobs repetitive, contributing to the industry's high turnover rate.

Companies are overcoming these challenges by using technology to take on more tedious tasks, freeing up staff to do more fulfilling work, particularly where emotional intelligence and personal judgment are required. Applicable areas for technologies such as AI, data analytics, and natural language processing in the back-office environment include billing, document processing, record keeping, and compliance checks.

Lemonade's internal brain, for example, is being taught how to compile regulatory reports, help find documents, on-board new staff, run audit analysis, and increase customer acquisition.

In staffing, Cigna, the health, life, and accident insurer, is using data, automation, and deep learning to match staff with vacancies. The program also allows staff to create career profiles that indicate if they're open to new

Figure 8. Workforce skills a barrier to transformation



Source: Infosys Knowledge Institute

opportunities. This helps retain good staff and keep morale high, while holding recruitment costs down.

How to build a better future

Insurance has always been a data-driven business. When insurers apply advanced technology to their data, the benefits range from more personalized products and pricing to lower costs and better service — all to the benefit of both the customer and the bottom line. However, there are challenges.

While insurers have plenty of raw data to train models, much of this isn't currently fit for purpose, because it is unlabeled, inconsistent, and siloed. Once it has been made ready for use, companies need robust

compliance frameworks and appropriate governance procedures to ensure it is stored, accessed, and processed legally. Digital transformation is also constrained by a lack of workplace skills in AI, machine learning, and large language models (LLMs), and these challenges are themselves compounded by limited budgets and analytics capabilities. In fall 2024, research by the Infosys Knowledge Institute found that only 2% of enterprises are fully ready to put artificial intelligence to work at scale

But there's good news, too. Being later adopters means there's plenty of transformation experience in other sectors that can be applied to insurance. There is also a growing body of use cases from pacesetters within insurance to draw on.

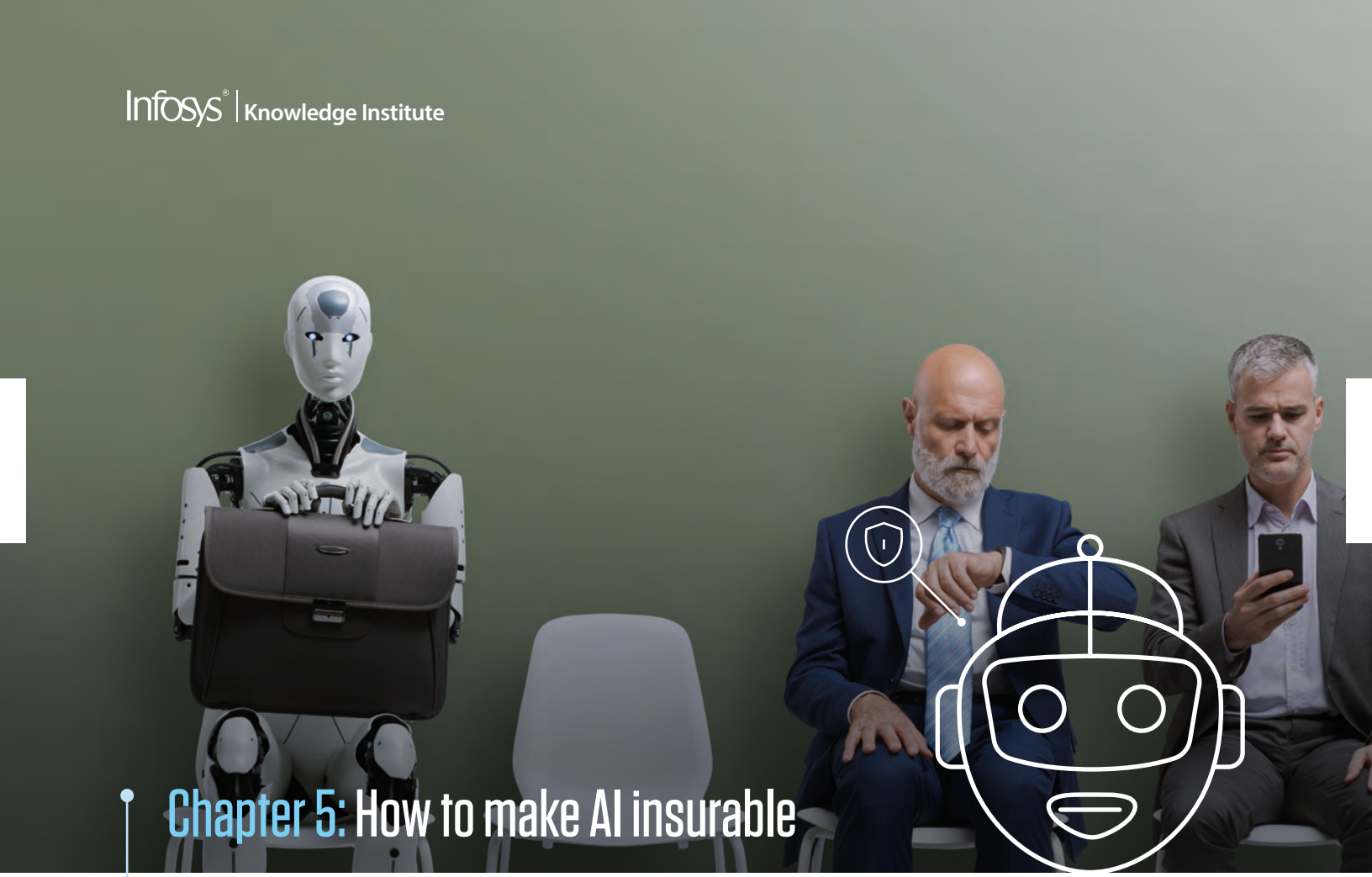
Technology is not a magic bullet — humans must oversee, check, and maintain even the most advanced AI and machine-learning outputs to avoid bias and hallucinations, and ensure accuracy and compliance.

But innovation is always constant, meaning new opportunities to further personalize customer policies and interactions will continue to arise.

Insurers must make sure they have the teams and processes in place to monitor, assess, develop, test, and ultimately push these into live service in a timely manner. An emerging LLM, DeepSeek-R1, a low-cost, open-source model from China, has sparked speculation that it could lower training costs – although details on this remain unclear.

The pressures facing insurance companies today are not going to vanish. Given insurers' obsession with risk, it's time they realized the very real risks of poor customer service. The technology to make customers happier and more satisfied exists and, in many cases, is available today. There are no longer any excuses not to adopt it.

> "While insurers have the raw data to train models, much of this isn't fit for purpose, because it is unlabeled, inconsistent, and siloed. Once it has been made ready for use, companies need robust compliance frameworks and appropriate governance to ensure it is stored, accessed, and processed legally."



Chapter 5: How to make AI insurable

- AI can behave unpredictably, follows opaque processes, and lacks historical performance data, creating a range of liability challenges.
- However, the growth and evolution of the cyber insurance market offers a path AI insurance could follow.
- Insurers and businesses will need to adapt to emerging regulations, as well as create audit and governance frameworks for risk assessment.

AI gets applied

Companies have spent more than a year experimenting with artificial intelligence, and now some have reached the cusp of achieving business value from AI. From automating critical healthcare decisions to optimizing financial trading and enabling self-driving vehicles, AI is set to profoundly reshape business processes. However, these opportunities bring risks. AI systems can make unpredictable errors, operate with limited transparency, and obscure liability in ways that traditional insurance models struggle to address.

In 2024, for example, Tesla settled a lawsuit with the family of a driver who was killed when his car crashed while on autopilot. The family argued that the automated system was responsible, while Tesla countered that the driver had not been overseeing it correctly.

In addition to corporate experimentation, platforms and software providers are aggressively promoting their own AI agents, AI systems, or programs capable of operating autonomously without supervision in their own ecosystems. While this holds promise, AI agents will only muddy an already opaque adoption process.

And while companies are enthusiastic about putting AI to work, many may not be ready, or have a use that fits with AI, says Valentina Proietti, head of product design at WongDoody London Design Studio. "So many times it comes to a point where … we have to be quite honest and kind of say AI is potentially not a good solution for you," Proietti said in an episode of the Infosys Knowledge Institute's AI Interrogator podcast.

AI-related risks are difficult to quantify and insure. Nevertheless, AI is becoming an essential tool for innovation, so companies will increasingly seek coverage for AI-related failures. Insurers must determine how to measure risk and assign responsibility in an environment where AI's capabilities are evolving rapidly, and liability remains unclear. This raises a fundamental question: Is AI insurable?

While AI poses complex challenges for insurers now, experience suggests new risks can be quantified, priced, and insured, given the right data, frameworks, and market incentives. Insurers, regulators, and businesses must collaborate on tailored insurance products, transparent liability frameworks, and robust governance standards.

Insurance executives tell Infosys that insurability of AI systems is a high priority for spending and their spending on the topic will increase in the next five years (Figure 9). But at present, our survey shows AI currently getting a 16% share of tech spend (see Chapter 1). But insurers tend to change slowly, so those who are willing to innovate aggressively have an opportunity to gain market share.

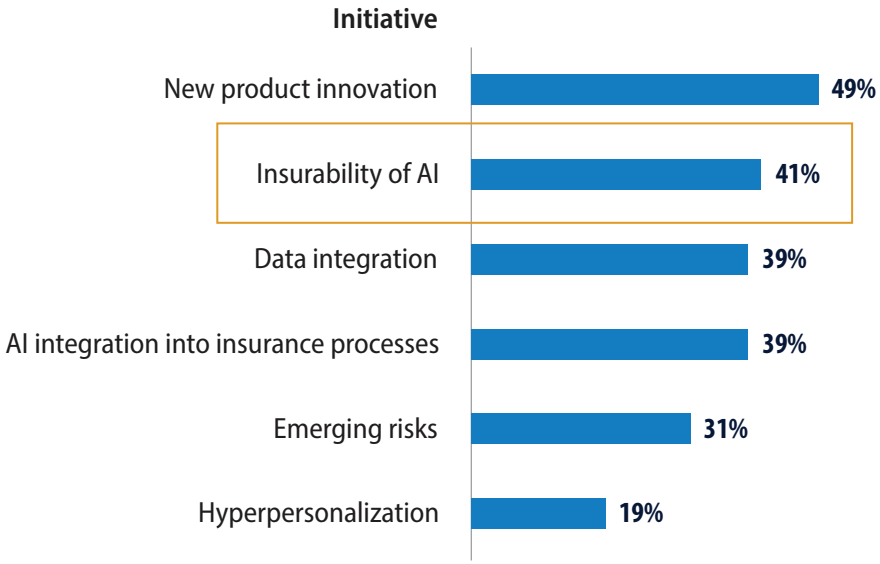
New technology, new risks

Unlike conventional risks, AI introduces complex, dynamic, and often opaque challenges that defy traditional assessment methods. These fall into six key categories:

Unpredictable risks: AI's self-learning algorithms can be unpredictable, with serious consequences. For example, an AI industrial safety system might shut down a factory based on misinterpreted data, causing operational losses. In traditional insurance, possible outcomes are typically far simpler to predict because previous technologies have a more limited range of capabilities.

Lack of historical data: As a new and rapidly evolving technology, AI lacks the historical benchmarks insurers rely on for precise underwriting. Furthermore, tomorrow's AI models might not work like the models of today. This makes it harder for insurance companies to assess risk and is likely to inflate costs because these systems might present as entirely new technologies with each generation. A more innovative assessment system for novel technologies will be required.

Figure 9. Insurability a priority: 41% plan to spend $50 million or more on insurability of AI in the next two years



Source: Infosys Knowledge Institute

Blurring of responsibility: AI ecosystems involve multiple stakeholders, including developers, data providers, integrators, and end users. Determining liability in cases such as self-driving car accidents requires navigating a web of interconnected responsibilities. This complicates coverage terms and could delay claims resolution if multiple parties are potentially liable for an accident.

Opacity of AI systems: Often described as black boxes, AI systems can obscure decision-making. For instance, an AI loan-approval system might unknowingly discriminate on ethnicity, leading to lawsuits, regulatory penalties, and reputational damage. Insurers will have to find a way to incorporate both the outcomes and the lack of transparency in how they are reached.

Hidden exposure: AI is sometimes embedded in products without users' knowledge, creating hidden risks. For instance, an AI-powered tool might plagiarize content, exposing users to legal liabilities. Businesses will need to review all their policies to determine whether they are covered for this kind of risk and, if not, liaise with their insurer to adjust coverage.

Dynamic customer behaviors: AI can influence human behavior. One extreme example is an AI chatbot allegedly encouraging an autistic teenager to murder his parents. Such incidents alter risk profiles

unpredictably and traditional insurance offers limited scope for dealing with these kinds of dynamic behavior.

Despite these complexities, the insurance industry is adapting. Companies such as Munich RE have launched pioneering products like AiSure, which guarantees the performance of AI software under specified conditions, such as ensuring that algorithms that determine the health of an electrical-vehicle battery are accurate. This assurance gives companies confidence that the benefits of adopting a new AI tool will outweigh the risks of it malfunctioning.

Meanwhile, insurers such as Zurich and Generali are themselves integrating AI by working it into their underwriting and risk-assessment processes. Rapidly analyzing vast datasets of claims data, do correctly, can improve both assessment accuracy and speed.

Another innovation is the use of real-time telemetry data, collected from businesses and clients' networks, to dynamically adjust premiums based on evolving conditions.

AI in insurance offers great potential, but insurers must be cautious to train models on correct datasets. Insurers offering coverage from auto to health have already endured embarrassing missteps related to good training on bad (or ill-fitting) datasets.

Lessons from cyber insurance

The evolution of cyber insurance offers a blueprint for how AI insurance could develop. Initially speculative and expensive, cyber insurance gradually transformed into a standardized and widely adopted solution, driven by major incidents, regulatory frameworks, and advancements in risk assessment.

In its early days, cyber insurance policies were costly and inconsistent, reflecting the uncertainty surrounding a relatively new field. This began to change during the 2010s, as high-profile cyber incidents, such as the WannaCry ransomware attack and the NotPetya malware incident, highlighted the tangible business risks. Robust insurance coverage was clearly needed as part of organizational risk-mitigation strategies.

Meanwhile, regulations such as Europe's General Data Protection Regulation (GDPR) introduced clearer obligations for organizations to safeguard data and respond to breaches. Regulations sometimes turned cyber insurance from a strategic choice into a de facto compliance requirement.

For example, the EU's Digital Operational Resilience Act (DORA) does not specifically mandate the purchase of cyber insurance, but it requires comprehensive risk-management and mitigation strategies for which insurance is often a useful part.

In response, insurers standardized their policies to include common features such as post-incident support and cover for breach costs, making them easier for businesses to understand, compare, and adopt, which increased market acceptance and stability.

Advances in risk assessment

The maturation of cyber insurance was also fueled by new risk-assessment methodologies. At first, as with AI today, the lack of historical data and the rapidly evolving nature of risk was challenging for insurers. However, they developed more sophisticated tools for evaluating risk, leveraging threat intelligence, real-time monitoring, and actuarial models built from anonymized incident data.

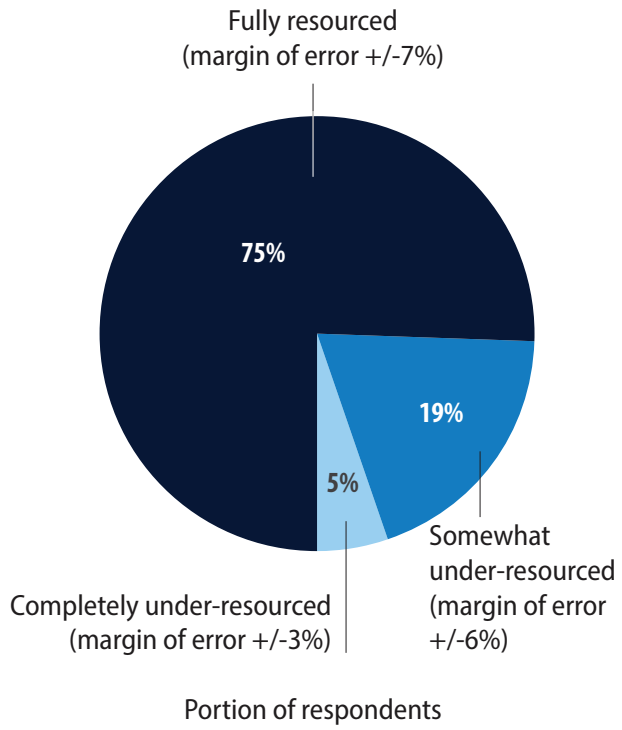
With more precise pricing and coverage that better matched risk exposure, cyber insurance became more accessible to organizations of all sizes, further driving market growth.

Between 2017 and 2022, the cyber insurance market grew by 32% each year. It's a discipline that insurers have rapidly developed, with three out of four insurance executives surveyed by Infosys describing the industry's capability to combat future IT security threats as fully resourced (Figure 10).

AI insurance could follow a similar path to maturity. Just as cyber insurance initially lacked standardized models, AI insurance today faces similar uncertainty. Where cyber incidents incentivized businesses to seek coverage and insurers to refine their products, so high-profile AI failures could push demand for clearer liability structures and coverage options.

Insurers are already adapting. AXA XL's CyberRiskConnect policy includes an endorsement specifically designed to cover generative AI risks. For instance, the policy covers attacks caused by data poisoning, where malicious actors target AI models by inserting misleading information into training data to skew decision-making.

Figure 10. Insurers fully resourced to combat IT threats



Source: Infosys Knowledge Institute

Meanwhile, Coalition has introduced coverage for cyberattacks conducted using AI technologies. These examples illustrate how insurers are expanding existing frameworks to accommodate AI, rather than building entirely new models.

As insurers refine risk models, standardize policies, and integrate AI governance frameworks, AI-specific coverage will become more accessible, transparent, and essential for businesses managing AI-driven risks.

New risks, tailored solutions

To better understand how AI is reshaping the liability landscape, we can look at three industries: Healthcare, financial services, and automotive. Each is creating new risks and challenges for insurers, but tailored solutions are emerging.

Health: Misdiagnosis and ethical concerns

In 2024, the director of the World Health Organization expressed ethical concerns about healthcare AI, including the danger that the technology might not be available to all, and the risk of misdiagnosis. For example, an AI diagnostic tool could mislead clinicians by misidentifying symptoms or failing to flag a rare condition, leading to diagnostic errors. This endangers patients and raises questions about who should bear liability — the clinician, the healthcare provider, or the AI developer.

Insurers are adapting, though. UK-based CFC has extended its healthcare policies to include coverage for errors or diagnosis failures caused by AI. This covers errors and omissions caused by AI tools such as transcription tools used for updating patient notes. This type of tailored coverage reflects the growing need for policies that address both human and machine errors, ensuring healthcare providers remain protected as they integrate AI.

Financial services: Automation risks

In financial services, the speed and scale of AI-driven decision-making present unique risks. For example, in 2024 Citigroup was fined £61.6 million by the UK's Financial Conduct Authority and Prudential Regulation Authority after its automated trading system caused widespread market disruption by inadvertently selling $1.4 billion of equities. This caused a significant drop in European markets, potentially causing other traders to lose money in reactive trades.

Here, too, insurers and technology providers are exploring solutions. Companies such as Armilla are developing products that verify AI systems and insure them against failure. Rigorous testing of algorithms, like those that make automated trades, should reduce

“An AI diagnostic tool could mislead clinicians by misidentifying symptoms or failing to flag a rare condition, leading to diagnostic errors. This endangers patients and raises questions about who should bear liability — the clinician, the healthcare provider, or the AI developer.”

the likelihood of costly incidents, while also providing coverage for financial losses if failures do occur.

However, companies can only test algorithms they have created. Testing any third-party services or software depends on the AI vendor collaborating.

Automotive: Big tech in the driving seat

As AI automates driving tasks, the question of accident liability becomes more complex. Responsibility still tends to fall on the driver, even in vehicles with advanced driver-assistance systems, but this becomes complicated as self-driving capabilities expand.

For example, if a self-driving truck with no human in the cab hits a pothole and veers off the road, should this be covered by a traditional automotive policy or under AI product liability?

If the accident was caused by a software malfunction, liability could shift to the developer or manufacturer rather than the driver or fleet owner. Current insurance models do not clearly distinguish between human and AI-driven fault, leaving gaps in coverage.

Again, insurers are already adapting. In the UK, Adrian Flux now offers driverless car insurance, explicitly covering accidents caused by software or mechanical failures, perhaps signaling the beginning of an industry-wide move toward more tailored AI-related policies.

Legacy coverage gaps

As AI adoption accelerates, many companies are integrating AI tools without considering the insurance implications. This creates hidden exposures and coverage gaps, leaving businesses vulnerable to unforeseen liabilities. Existing policies often don't explicitly address AI risks and where coverage does exist, the lack of clear definitions and exclusions can lead to uncertainty over how claims should be handled.

One of the biggest challenges is the emergence of shadow AI — employees using AI without formal oversight or risk assessment. While AI tools can improve productivity, they also introduce risks that existing insurance policies might not cover. An AI-generated error in a financial report, for example, could lead to regulatory fines, legal action, or reputational damage, but without explicit policy language in place, this might not be covered under traditional liability insurance.

Other employers report staff members using generative AI on personal devices for work purposes, sometimes without realizing the risk this entails. Businesses should proactively assess their shadow AI exposure, while insurers are likely to refine policy language to include or exclude unauthorized AI usage. As companies become increasingly reliant on AI for decision-making, ensuring that both intended and unintended AI usage is covered will be critical to mitigating risk.

Today, if an insurance policy mentions AI, there's every chance it's to exclude AI-

related risks entirely. Even when AI is not explicitly excluded, insurers often struggle to determine which type of coverage applies.

The language used in policies is evolving as insurers work to distinguish between AI-driven professional liability risks (arising from errors in service delivery) and product liability risks (stemming from AI system failures).

For instance, if a law firm's AI-powered chatbot provides incorrect legal advice, leading to financial loss for a client, does that fall under professional liability insurance? If a software company's AI-driven recruitment tool is found to be making discriminatory hiring decisions, does liability rest with the software provider, the employer using the tool, or both?

As AI usage grows, insurers are revising policy language to ensure clearer definitions and coverage triggers. Policies are being updated to reduce ambiguity for policyholders. In future, insurers will need to refine coverage models further to account for different AI failure scenarios and legal interpretations, ensuring businesses can secure appropriate protection.

An evolving landscape

For insurers, possible solutions to legacy coverage gaps are as follows:

- Explicit policy language: Clearly defining AI-related risks and coverage triggers to eliminate ambiguity.
- Flexible coverage models: Offering hybrid policies that span professional and product liability where appropriate.
- AI risk audits: Helping businesses assess their AI exposure and implement safeguards to reduce potential liabilities.

As insurers work to close gaps, businesses must also be proactive in reviewing existing policies and engaging with insurers to understand where AI risks might fall through the cracks.

Regulatory frameworks and auditing

> While AI tools can improve productivity, they also introduce risks. An AI-generated error in a financial report could lead to regulatory fines, legal action, or reputational damage, but without explicit policy language in place, this might not be covered under traditional liability insurance.

mechanisms will play a pivotal role in shaping the AI insurance market. Balancing compliance, risk management, and innovation will define how AI insurance evolves in the coming years.

Regulation is becoming central to managing AI risk. The EU AI Act takes a risk-based approach, classifying AI systems according to potential harm. It mandates explainability, transparency, and clear liability structures, ensuring that high-risk applications, such as those in healthcare, financial services, and law enforcement, follow strict requirements.

By the time the final provisions of the Act come into force, in August 2027, businesses operating in the EU will probably need AI-specific insurance policies to cover compliance failures, regulatory penalties, and liability claims.

In contrast, the United States has taken a more decentralized, less risk-averse approach. The US has emphasized scrutiny of monopolistic power among big tech businesses, with AI regulation emerging through state-level initiatives and industry-led standards. In Pennsylvania, for instance, companies could be banned from making employment decisions without human oversight, while Oregon wants companies to assess AI tools for potential bias before deploying them. While this could create short-term flexibility for insurers deploying AI in their own operations, it also introduces uncertainty, as regulations are likely to evolve unevenly across jurisdictions.

A growing number of companies, particularly in the US, are already seeking higher insurance coverage for AI-related risks, driven by concerns over regulatory shifts, litigation, and reputational damage. This signals an expanding market for AI-specific insurance products.

The role of audits

Beyond formal regulation, audits and industry standards will be critical in mapping how companies use AI. These could also provide insurers with historical data to improve underwriting models. One of the greatest challenges for AI insurance is the lack of past claims data, making it difficult to assess risk accurately. By implementing structured AI audits, insurers can begin building a data-driven foundation for AI-specific coverage.

Several initiatives are already emerging to bring standardization to AI governance, as follows:

- ISO AI frameworks: International standards that define AI safety and operational benchmarks.
- AI safety certifications: Third-party validation that AI systems comply with ethical and technical best practices.
- Third-party audits: Independent assessments of AI decision-making processes, helping insurers understand how AI systems operate and where failures could occur.

In the insurance industry, structured audits could play a similar role to cybersecurity risk

assessments, helping underwriters bridge the gap between AI's rapid evolution and the lack of actuarial loss history. By capturing real-world AI failure data and usage trends, audits can inform policy pricing, clarify liability structures, and reduce uncertainty for both insurers and policyholders.

In the future, AI governance tools could go further — introducing an AI equivalent of an airplane's black box, recording the events leading to an AI-related incident. If widely adopted, such tools could become a prerequisite for AI insurance coverage, much as security audits are required for cyber insurance policies.

Market catalysts

As AI regulations solidify and auditing practices become standardized, insurers will be better equipped to develop comprehensive products. Just as compliance requirements have driven growth in cyber insurance, AI regulations will likely accelerate demand for insurance solutions that mitigate financial and operational risks tied to AI failures.

For insurers, this means aligning products with evolving legal frameworks, incorporating audit results into underwriting decisions, and partnering with AI safety and compliance companies to develop robust risk-assessment models.

That said, risk assessment must be robust and flexible. Innovations such as the January 2025 splash by Chinese AI startup DeepSeek received notability because of delivering AI with less compute requirements and costs. But it also pioneered a different AI technique, employing multiple layers of reinforcement learning and using chain of thought prompting to achieve better reasoning. This potentially enables better explainability from AI. Said another way, innovation in AI techniques will change the black box, and frameworks must be ready for this.

While the regulatory landscape remains fluid, one certainty is that businesses will increasingly need insurance products designed for AI-specific risks. Insurers who can integrate regulatory compliance, audit-backed risk assessments, and dynamic underwriting models will be best positioned to lead this emerging market.

The future of AI insurance

AI will be insurable eventually, but traditional insurance models must adapt to account for the complexity, opacity, and rapid evolution of AI technologies. As businesses become increasingly reliant on AI, insurers must develop new frameworks, data-driven underwriting models, and clearer liability structures to keep pace with emerging risks.

Moving forward, insurers will need to do the following:

- Develop tailored AI insurance products that account for both professional and product liability risks.
- Collaborate with regulators to align insurance frameworks with evolving legal and ethical standards.

- Leverage AI-driven risk modeling and real-time telemetry data to create dynamic pricing and more precise underwriting models.

- Implement auditing mechanisms to improve transparency and provide insurers with the loss history necessary to refine AI coverage.

As AI continues to evolve, we are likely to see insurers adopt more dynamic, usage-based insurance models, where coverage and pricing are continuously adjusted based on real-time AI performance metrics. This would be reminiscent of how telematics transformed auto insurance. Additionally, regulatory harmonization could bring greater clarity on liability, ensuring AI-related failures are insurable across jurisdictions.

Ultimately, AI insurance is not just a necessity, but an inevitability. Insurers, businesses, and regulators must collaborate to reduce uncertainty, ensuring companies can embrace AI's potential while managing risk. Just as cyber insurance grew into a robust market, AI insurance can follow a similar trajectory, provided insurers are willing to innovate, collaborate, and adapt.

> One of the greatest challenges for AI insurance is the lack of past claims data, making it difficult to assess risk accurately. By implementing structured AI audits, insurers can begin building a data-driven foundation for AI-specific coverage.

Chapter 6: Tech can help overcome life insurance challenges

- New technologies are helping life insurers reach more customers and geographical markets to make up for a decline in the sale of traditional policies.
- Insurers are investing in data analytics and machine-learning tools to speed up underwriting. The same tools are delivering a more granular view of risk that is allowing insurers to reach previously uninsurable customer segments, such as people with chronic illnesses.
- Partnerships with mobile telecommunications carriers have enabled the sale of life insurance products to customers in emerging countries, pointing to a future of collaboration to develop new markets.

In a young, fast, and digital world, the life insurance business is old, slow, and analog. But new technologies are at last enabling the life insurance industry to overcome two deep-seated challenges in providing cover.

New data-gathering, processing, and analysis techniques, from digital watches to artificial intelligence, let insurers tailor policies to the needs of aging populations and new generations of digital natives. At the same time, the spread of mobile phones, and partnerships between insurers and mobile-phone operators, are reducing the cost of serving new customers in Africa and other emerging markets.

These technologies are driving a revolution in the way policies are sold. Digital sales channels are making it easier for everyone, everywhere, to find the policy that is right for them, at the most attractive price. And data analytics on customer behavior means that price can be adjusted automatically during the contract period. For example, fitness monitors and other wearable devices are enabling insurers to become partners in well-being — educating and assisting people to monitor and improve their health. This market stood at $97 billion in 2022 and projected to grow at more than 12% annually. Simultaneously, the data fed back to insurers enables them to reward healthier lifestyles with benefits, including — potentially — lower premiums. This innovation does have potential downside. Such programs can be intrusive or potentially coercive and must have clear rules on how personal and private health data is managed.

This emerging technological transformation comes amid unprecedented and dramatic demographic shifts. Aside from Africa, where birth rates remain high, the world's population is aging fast. By 2050, the proportion of over-65s is expected to double, to 1.6 billion, or 16% of the population. In super-aged countries such as Italy and Japan, that proportion will top 20%.

Meanwhile, slumping fertility rates, fewer marriages, and high home prices are hampering the traditional life insurance model. The first home purchase by new couples used to underpin a big share of life insurance sales, since many policies are used to guarantee loan repayments. But today, sky-high property prices are forcing couples to delay marriage and starting a family, so that first home purchases often happen much later. This is one of the reasons why life insurance penetration in the US fell to 51% of the population in 2024, from 63% in 2011.

But in emerging economies, rising wealth is creating potential new markets. There, first-time property buyers are taking out life insurance to underpin home purchases, build education funds, and protect their families. The broad adoption of mobile banking in Africa is allowing insurers to reach new customers. In Kenya, Safaricom, a mobile carrier, initially partnered with microinsurance providers to familiarize mobile-phone users with health, agricultural, and other forms of cover. It has now received regulatory approval to offer insurance services direct. GXBank in Malaysia is also in a partnership with Zurich. Such partnerships are seen as a gateway to offering further insurance products in the future.

Cover in the 21st century

For decades, there were two ways of buying insurance in developed countries. Customers could visit an agent selling a range of policies offered by a particular company. Or they could go to a broker, who would help them choose the most appropriate — but not necessarily the cheapest — policy from a range of leading insurers. Both models remain commonplace.

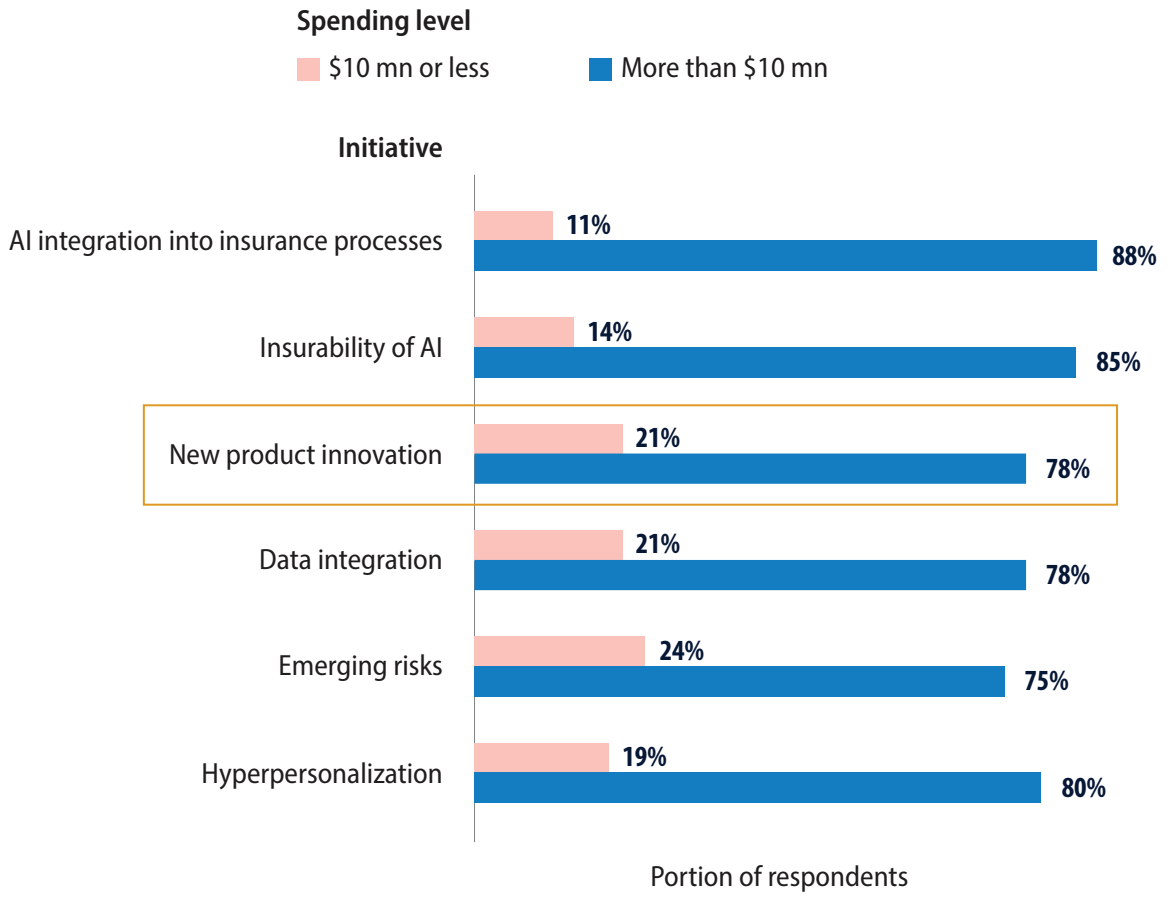
But today's customers — especially younger generations of policy buyers — are turning to social media for financial advice. In the

US, for example, one study found that up to 84% draw upon information, for better or worse, from Facebook, YouTube, and other platforms when researching insurance. Online technologies and comparison websites such as Comparethemarket.com are also making simple life policies more accessible.

But younger customers want to buy life insurance the way they buy anything else online: quickly and easily. In response, traditional life insurers, such as Prudential in the US, are developing simpler products and online channels to complement their networks of agents and brokers. And Aviva now offers no-frills life insurance designed to just cover the essentials — a payout in case of death.

Insurance executives surveyed by Infosys say they view new product innovation as a priority. Among six areas with the potential to transform the insurance industry, new product innovation ranked top in terms of technology spend share (Figure 11). And the top priorities they identify in the context of product innovation read like a checklist of persistent problems in life insurance: 1. customization of products; 2. improving delivery; and 3. accelerating time-to-market.

Figure 11. New product innovation is likely to receive big budgets



Source: Infosys Knowledge Institute

Many leading life insurers are embracing accelerated underwriting to neutralize one of the biggest turnoffs for would-be customers: The lengthy and intrusive health checkups required by traditional underwriters. According to one study, three out of four life insurance companies in the US and Canada now have automated or accelerated underwriting programs. But to provide this service, insurers must have predictive analytics, machine-learning algorithms, and access to data sources, including medical records, to build an applicant's risk profile.

Intermediaries still play a valuable role in helping many buyers understand policies, policy differences, and options. In some respects, the value of their work is increasing as products become more diverse and targeted. But some customers, especially digital natives, prefer to use digital tools to run their financial lives. So, digital data and online access create an opportunity for insurance companies to build bridges to their clients.

These channels can also improve a carrier's knowledge of their customers' lives and lifestyles and their understanding of risk. If insurers have customer permission and technologies to analyze what the customers are eating, how often they exercise, their job stability, and where and how often they travel, they can more accurately assess the chances of how long they will live. These new tools are spurring innovations in both products and delivery in all markets, but in ways shaped by shifting demand and delivery patterns.

More targeted products

Product innovation in developed markets reflects growing market segmentation as more targeted products are delivered for young and old, including the chronically sick.

Our longer life expectancy is helping accelerate a trend toward custom life coverage. Some policies offered by New York Life, for example, allow policyholders to flex their cover and premiums as their responsibilities change. A policyholder can start out with a combined life insurance and savings product, then add coverage for loan repayment when they buy a home and take out a mortgage. Add-ons include a drawdown arrangement if the policyholder suffers a chronic illness or an additional accidental death benefit.

Insurers are also putting technology at the service of customers to help inform their decisions. In the UK, independent online brokers such as LifeSearch help buyers identify policies that best fit their particular needs, according to their age, responsibilities, and any medical complications, such as a previous stroke.

Some insurers are seeking to better serve people who otherwise struggle to obtain life insurance under traditional policies, such as those with diabetes or heart problems. The potential market is substantial: For example, 50.1% of British women report a chronic health condition and 29.3% are overweight. Among British men, 45.7% report a chronic health problem and 37.9% are overweight.

In response, online comparison sites such as QuickQuote are now trying to help those with chronic heart disease obtain quotes, while encouraging insurers to develop tailored solutions for this expanding market.

In the UK, Blueberry Life has partnered with Shepherds Friendly, a mutual insurer founded in 1826, to launch a life insurance policy for people diagnosed with Type 2 diabetes. Elsewhere, the Midland National Life Insurance Company stresses its willingness to consider applications from those with psychiatric conditions, insisting these are not automatically a barrier to providing cover. By taking on clients like these, insurers can, in turn, gather more granular data that helps them more accurately assess the risks incurred in insuring significant subsets of the population.

Insurers, and especially InsurTechs, are striving for better-tailored products that are easier and cheaper to sell and administer online. There are plenty of technologies that can help, such as the apps people use to monitor their sporting activities, and connected watches that monitor vital functions in real time.

The cornerstone of this approach is behavioral engagement. Policies and platforms from Vitality Life of South Africa, and others like it, enable insurers to develop life products that both incentivize and reward healthier lifestyles through shared value propositions that reward lower risks. Blueberry Life, for example, offers a free first-year subscription to the diabetes management app Gro Health and rewards healthy living with lower premiums, bigger payouts, or other benefits.

A report last year from the US Society of Actuaries highlighted the immense cost of treating chronic illnesses, but concluded that it was too early to judge the success of programs in reducing the incidence or severity of these. It did add, however, that "the best chances for success are where insurance companies have strong ties to their customers."

"Insurers, and especially InsurTechs, are striving for better-tailored products that are easier and cheaper to sell and administer online. There are plenty of technologies that can help, such as apps to monitor users' sporting activities, and watches that monitor vital functions in real time."

The search for new markets

With traditional markets in decline, life insurers are adapting their product offerings to new geographical markets. New technologies and partnerships are helping with both.

Life insurers are entering emerging markets with micro-insurance packages. These are typically sold in Africa, Asia, and Latin America by mobile network operators. Over half (53%) of the global population — some 4.3 billion people — now own a smartphone, according to the GSMA's annual State of Mobile Internet Connectivity Report 2024.

This creates opportunities to reach potential customers, even in remote locations. The GSMA estimates that more than 100 mobile-enabled insurance services were launched in the decade leading up to 2021, with life insurance being the most successful product offered.

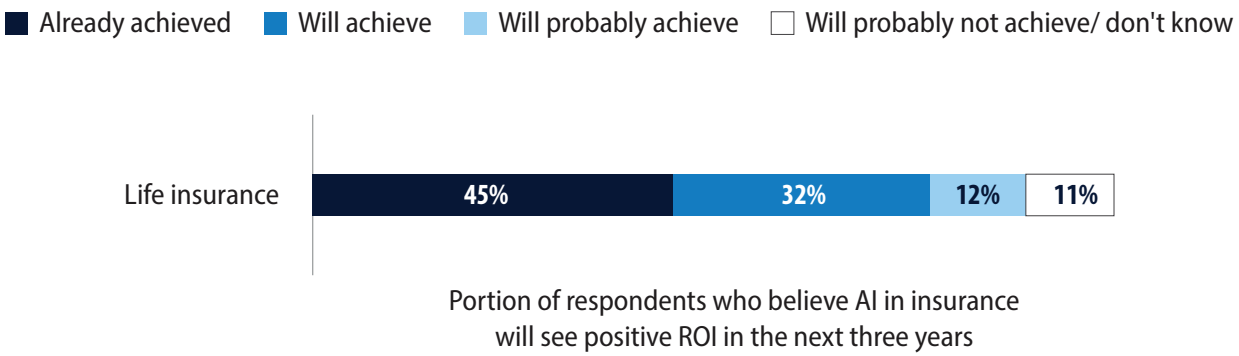
In this model, a technical service provider, often backed by a leading global insurer, collaborates with an operator to offer coverage, issue policies, and settle claims. As of 2020, 43 million policies had been issued, two-thirds of which were life and health insurance policies. Two-thirds of operators collected premiums by mobile money transfers, with other options including deducting them from airtime payments.

AI enables new approaches

The adoption of AI is improving the efficiency of what insurers do. Insurance executives surveyed by Infosys are confident that AI initiatives in life insurance will deliver return on investment (ROI) for their AI initiatives, and 45% say AI already is delivering ROI in life insurance (Figure 12). That's more than other insurance discipline surveyed.

For life insurance underwriting, AI tools can sift through applicant medical records,

Figure 12. Insurers are confident that AI will deliver ROI in life insurance



Source: Infosys Knowledge Institute

highlighting information relevant to risk and identifying discrepancies or gaps. This can speed assessments and help human underwriters make better final decisions on risks, coverage, and premiums. AI can also analyze claims to identify potentially fraudulent activities.

On the policyholder side, predictive AI tools and newly developed AI agents can deliver faster, smoother customer service. AI-powered assistants and mobile phones can also reduce costs for insurance providers, helping to make emerging markets economically viable.

AI can also personalize policy recommendations on customer needs and risk profiles. As retailers can attest, customers are more likely to buy products that fit their needs and tastes. Further, AI-powered predictive analytics can give an early signal of potential policy lapses. This enables insurers to proactively engage with clients and improve customer retention.

Old systems hamper progress

Efforts to foster development and adoption of new products through market analysis, segmentation, education, transparency, and online delivery, face huge implementation challenges.

The nature of life insurance — with contracts that can last decades — has created a heavy dependence on legacy databases and systems. In fact, a report found that 74% of insurance companies rely upon them. This impedes their ability to develop more innovative and agile product offerings, as these systems were designed to record transactions, rather than engage with customers. Digital technologies have evolved enormously, but the data that fuels them is lodged in silos and systems built in a different epoch.

Additionally, liabilities last for decades, during which policyholders grow up, or grow old, move house, and so on. And the sums involved are huge — the global life insurance market was estimated at $7.55 trillion in 2024. So, regulators must ensure insurance companies are well-funded and long-lasting, and when company failures occur, they must arrange for other companies to take over the policyholders and liabilities of the failed entity.

The need to ensure continuity of cover and security over extended time horizons can be an obstacle to innovation. The introduction of new products, often by challenger InsurTechs, entails high costs and risks linked to the long-term nature of life insurance.

As a result, venture capital prefers to back only product development and marketing risk. Portfolio risks must often be mitigated through reinsurance, so customers can be assured of payouts when they make claims even if providers are long gone.

Modernizing legacy systems enables data management to be streamlined and advanced technology such as generative AI to be deployed. Generative AI can quickly summarize unstructured data such as forms, for example, making processes more efficient

and companies more competitive.

Research shows that primary adopters of generative AI in insurance achieved 15% gross profit growth in 2022–23, while maintaining high customer satisfaction. Better data management facilitates greater use of analytics for a deeper understanding of customer behavior and preferences, as well as critical business variables such as potential churn.

New horizons in life insurance

Huge demographic shifts and the emergence of new markets are offering opportunities for new kinds of life insurance products. These are being enabled by online distribution channels and new technologies that facilitate more granular risk assessment. To thrive in this environment, life insurers need to:

1. Develop new systems that permit collection and analysis of granular data about clients and risks.
2. Create the capacity for direct sales using tailored risk assessments that respond to self-certified health declarations or documents, rather than relying upon interviews or medical reports.
3. Use data analysis and AI to accelerate sales and assessment processes to meet the expectations of digital-first generations.
4. Learn to use alternative data sources such as social media to improve risk modeling.
5. Consider forming partnerships with mobile phone operators and online banks in emerging markets to sell new kinds of life products to low-income customers and the new middle classes.

Connected devices, advances in automation, and using AI to process data are transforming the life insurance industry. The promise now is of ever-more targeted products, delivered at lower cost, and with more personalized premiums to anyone who wants them.

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