Generative AI in the insurance industry

You can't win if you don't play

How IBM can help

IBM consulting services and a suite of insurance solutions help insurers power new risk products and services through open hybrid cloud products that leverage data and trustworthy AI, while modernizing and automating hybrid cloud systems to increase flexibility, resiliency, and efficiency. To learn more, visit ibm.com/industries/insurance.

Key takeaways

Insurers can prosper with generative AI in customer conversations, but the larger value will be in building tangible, enterprise-wide improvements in risk advice, product development, and end-to-end processes.

Insurers are chalking up early wins using generative AI in customer experiences, but there is more to do.

Insurers using gen AI to a large extent in customer systems are experiencing marked improvements in customer satisfaction over insurers not using gen AI at all, including a 14% higher retention rate and a 48% higher Net Promoter Score.

Customers want advice and products that match their risks, not just a better chatbot experience.

Insurers are focused on brand and product experiences, while their customers say tailored products that meet their unique needs is their number one requirement.

Organizations choosing less-centralized operating models to develop gen AI capabilities improve business outcomes by up to 14%.

They see better run/build ratios, faster speed to market, and higher customer satisfaction and retention.

Insurers' generative AI balancing act

Insurance CEOs are evenly divided on generative AI: 51% see it as an opportunity, 49% see it as a risk.[1]

Industry executives anticipate using gen AI to fuel competitive advantage with improved sales, customer experiences, and organizational capabilities—but they are wary of the risks to cybersecurity and operations as well as the issues that can arise from inaccuracy and bias.[2]

Regardless of the insurer tendency for prudence and risk mitigation, the pressure is on to seize the opportunities. 77% of industry executives said they need to adopt gen AI quickly to keep up with rivals.[3]

As insurance organizations walk this tightrope between rapidly building new gen AI capabilities and managing gen AI risk and compliance, they are pushing forward with adoption, based on new research from the IBM Institute for Business Value (IBM IBV). Investments in gen AI are expected to surge by over 300% from 2023 to 2025 as organizations move from pilots in one or two areas to implementations in more functions across the business.

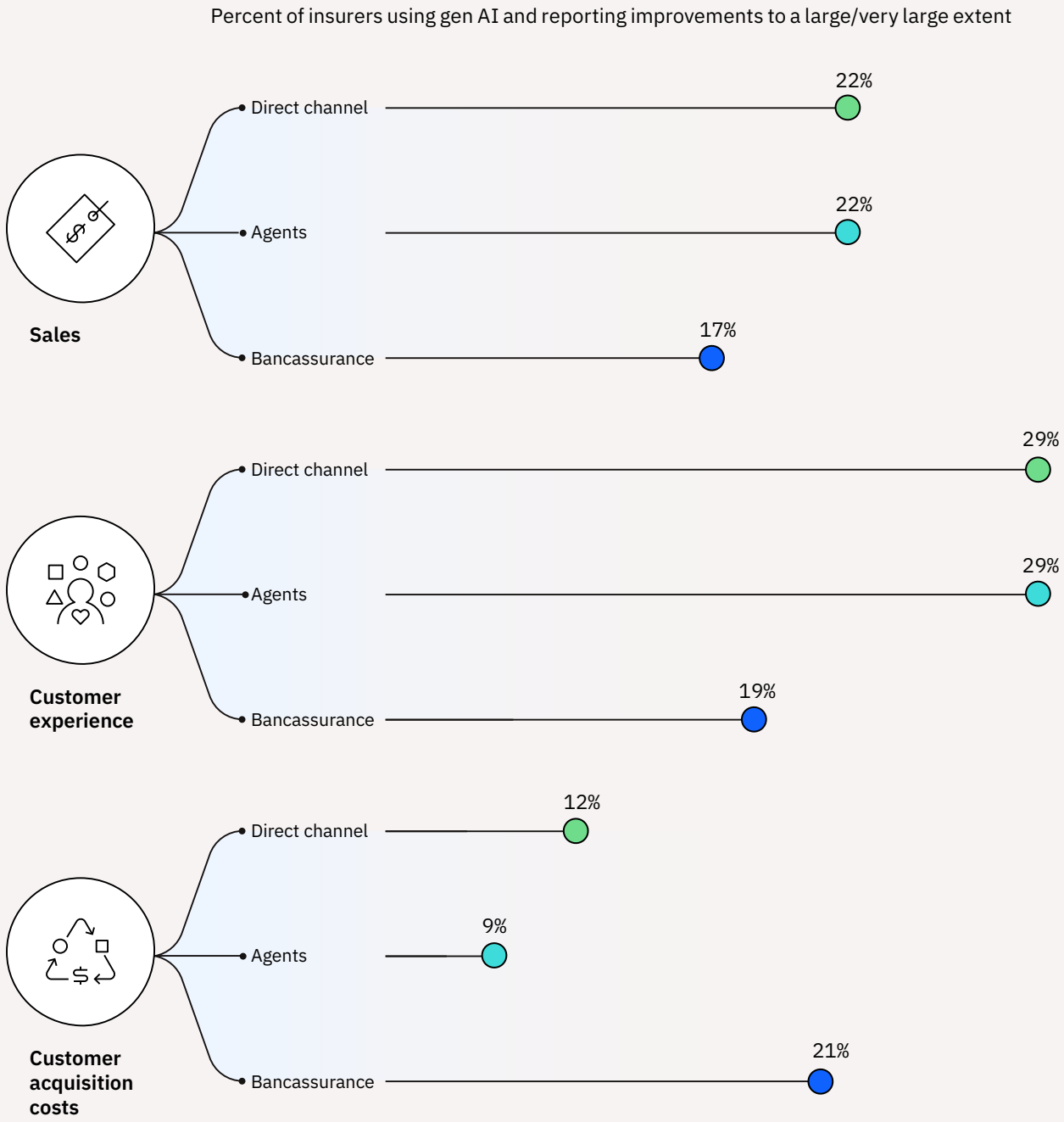
Organizations are also getting a taste of success. Early adopters using gen AI significantly in their customer-facing systems are seeing a marked improvement in customer satisfaction over insurers not using it at all, including a 14% higher retention rate and a 48% higher Net Promoter Score. And insurers that use gen AI across their direct, agent, and bank channels are improving sales, customer experiences, and customer acquisition costs (see Figure 1).

However, our comprehensive survey of 1,000 global insurance and bancassurance executives and 4,700 insurer customers also reveals significant areas of discord between insurers and their customers regarding generative AI expectations and concerns. To continue realizing the benefits, insurers would be wise to take the time to evaluate both *what* they are doing with the technology and *how* they are doing it.

In this report, we explore three critical factors that insurance providers should consider in assessing their gen AI strategy: customer engagement, technology preparedness, and operating model. In part one, we discuss the current gap between consumer and insurer expectations for gen AI, the opportunities this presents, and the importance of responsible AI. In part two, we examine the interplay between AI and legacy infrastructures and how they inform AI delivery. In part three, we look at the impact of the operating model for gen AI on an organizational decision framework with key business metrics. An action guide with each section offers steps insurers can start to take now to convert gen AI's growth potential into reality.

FIGURE 1

Gen AI helps improve sales, customer experiences, and customer acquisition costs across insurance channels.



Based on IBM IBV analysis.

Part one

Bridging the AI gap with customers

Insurers' use of gen AI needs to move beyond personalized discussions and chatbots to a truly customer-oriented matching of customer, risk, and product.

Customer engagement is already a top priority among insurers' AI initiatives. Most insurance executives report progress on AI assistants (66%), augmented customer service (65%), direct customer help (62%), and developer productivity (60%). But here's the disconnect: gen AI-driven customer service is not a top priority for insurers' customers. Customers see beyond the immediate service experience to a deeper question: am I getting the right products that will offset my own risk?

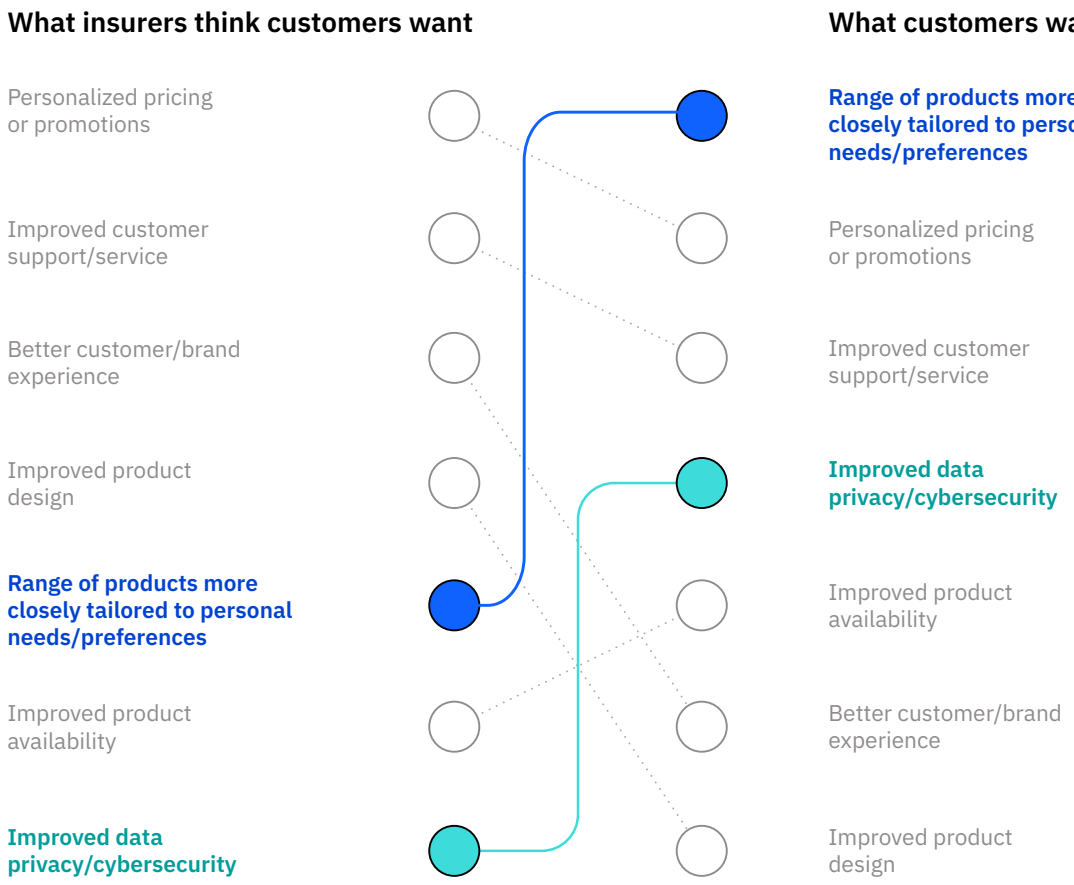
Customers also have major reservations about how gen AI is being put to use in customer care. Only 29% are comfortable with gen AI virtual agents providing customer service, and only 23% with them providing insurance advice. And just 26% trust the reliability and accuracy of advice from generative AI. In this environment, generative AI personalization may not improve customer trust; it can erode it. Enterprises are repeating past mistakes by not taking the time to understand their customers' needs and concerns.[4]

Looking at customer priorities for how insurers can use generative AI, their top choice is near the bottom of the list for insurers: products that are more closely tailored to their personal needs and preferences (see Figure 2). Insurers' customers want customized, trustworthy financial products—not fancy, complicated ones that aren't transparent and secure.

The two groups do agree on the importance of using gen AI to deliver personalized pricing or promotions. But many insurers haven't yet translated that view into action—marketing is in the lower third of AI use cases they are implementing or running. Insurance executives see personalization as a service issue, but insurers' customers are looking for more fundamental changes.

FIGURE 2

Customers have different expectations of generative AI than what insurers anticipated.

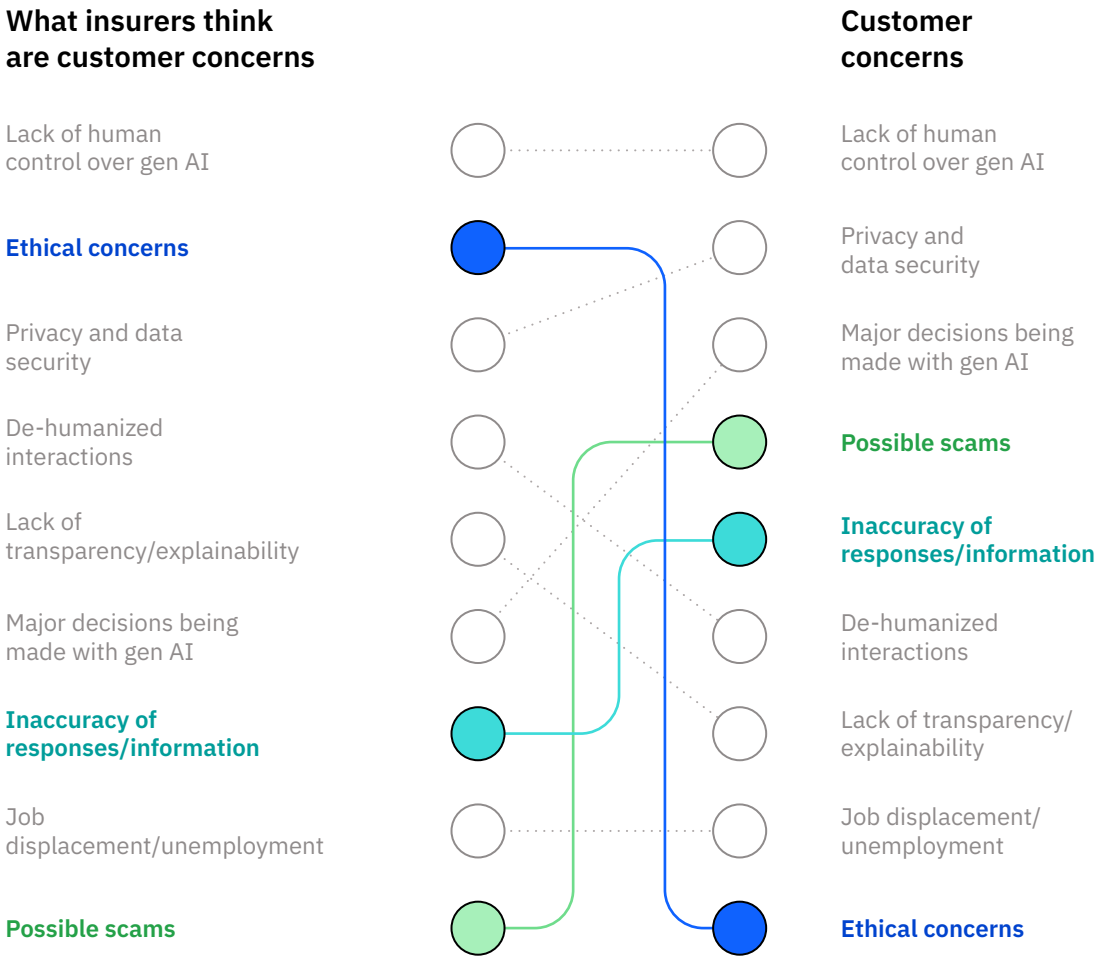


Q to insurers. What benefits do your customers expect from your use of generative AI today?
Q to customers. What benefits do you expect from your insurer's use of generative AI today?

Additional gaps are exposed when looking at customers' concerns about generative AI (see Figure 3). While both insurers and customers are wary about the lack of human control in gen AI, their perceptions diverge after that. Customers are focused on practical implementation issues—privacy and data security, possible scams, and inaccurate responses without sufficient oversight. Insurers see AI ethics policies as a means to address these concerns, but customers clearly don't think that's enough, rating that last in their list of reservations. Customers want ethical actions, not ethical statements.

FIGURE 3

Customers also are focused on different gen AI concerns than insurers anticipated.



Q to insurers. What reservations do customers have about generative AI?
Q to customers. What reservations do you have about your insurer's use of generative AI?

While these divides challenge current insurer efforts, they also provide opportunities for savvy insurers to jump ahead of competitors. Insurers can differentiate by seizing gen AI's capabilities to support new types of tailored products and bring them to market faster with a more targeted approach. For example, recent IBM IBV research showed that leading digital product organizations are using AI to research consumer and user needs, understand product usage, and synthesize customer feedback.[5] For insurers, this translates into delivering not just personalization, but an actual match between customers, their risks, and the insurer's products. Trust and quality need to be ironclad, given an insurer's investment in a brand and its regulatory constraints.

Gen AI can also help insurers expand their product range: executives anticipate faster product creation in 2025, accelerating speed to market by 3.6 months and increasing the number of products they add by 50%. Past IBM IBV insurance industry research has indicated strong market penetration and revenue expectations for expanded nontraditional product offerings.[6]

But trust, security, and fairness remain table stakes. 77% of insurance CEOs said establishing and maintaining customer trust will have a greater impact on their organization's success than any specific product or service.[7] Consumer trust in the insurance industry is already shaky thanks to rising premiums,[8] and our research shows trust scores overall for insurers have declined 25% since pre-COVID-19.

The ongoing struggle to earn trust means insurers must deploy gen AI in ways that build customer rapport, not undermine it. They cannot afford to overlook responsible AI practices and security, and they must effectively govern AI usage throughout the enterprise.

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Action guide

What to do

Customers are serious about gen AI miscues: 67% say insurers should be liable if something goes wrong with their generative AI. And 61% want to be asked for their consent when an insurer uses AI in their services, including clear notifications when AI is used. To succeed in the era of generative AI, insurers must balance customer support, personalized products and services, and best practices for responsible AI.

Key practices

Build more tailored products with flexibility, advice, and data linkage.
Leverage AI solutions to streamline workflows and improve specific steps in sales and services processes. This can accelerate product design and delivery as well as enhance service delivery. Choose AI tools that can leverage near-edge data, such as telematics summarization at the point of data collection. Deploy data frameworks that federate meaningful customer data across the typical insurance data landscape combining on-premises systems, multiple clouds, and ecosystem partners (such as flood models, security systems, weather and climate data, or social media data). Ensure data access from enterprise core and non-core systems to local gen AI model development, allowing innovation while keeping data in house.

Match those products intelligently to customers.
Leverage gen AI to connect products and services to customer needs more accurately. Analyze consumer data and call center best practices and make them available to customer service representatives during the policy servicing and claims processes. Drive next-best-action based on customer risks, wants, needs, and concerns, and match offerings to the customer's current life situation. Improve the user experience by embedding insurance products into the broader financial ecosystem at the point of risk consideration and embed AI locally to provide seamless service and advice to customers.[9]

Address the trust divide.
Insurers must shift their AI thinking from "it should work" to "should it work?" AI will rapidly gain position across insurance technical estates, similar to how cloud took hold. Don't force one AI model to fit all scenarios; plan for a future of many AI models. Actively govern model performance around fairness, transparency, and hallucinations. Ensure all models have explainable results and understand the confidence level of decisions. Empower humans to make better decisions versus a pure automation approach. Choose AI model solutions with embedded governance and compliance reporting capabilities. Intensify your focus on security, AI data stewardship, and data privacy at the AI framework level, not just in individual AI models. The encouraging news: the same time-tested security and privacy best practices are solid starting points for gen AI models and solution practices as well.[10]

Part two

Conquering complexity

Gen AI puts pressure on the technical estate—but also suggests ways to modernize it.

In the IBM IBV 2024 tech leaders study, 44% of insurance CIOs, CTOs, and CDOs said that new business models and an experience-led organization are the most important enablers of competitive advantage over the next three years. But more than half said their technology is only somewhat or moderately effective in delivering customer experiences.[11]

Generative AI is the tip of a well-known insurance iceberg: a complex technology estate that is aging and not always receptive to new gen AI models and code. Technical debt in insurance core systems makes it difficult to adapt these systems to new AI capabilities amid quickly changing market conditions, customer preferences, and regulatory requirements. 71% of executives say they are struggling with the high costs of maintaining legacy applications. The expense of "keeping the lights on" also limits gen AI investment, as insurers report an average run/build ratio of 2:1 today.

Interestingly, the 49% who admit their IT systems and architecture are too complex actually have a lower run/build ratio. Their awareness of implementation complexity likely prompts better prioritization of projects that reduce that complexity. 89% of insurance executives agree that organizations with simpler systems will be faster and more effective at adopting generative AI.

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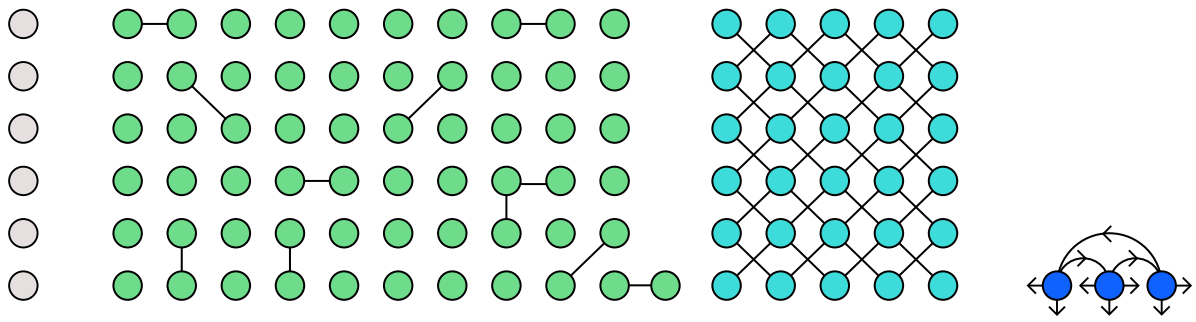
Complexity of systems also hampers generative AI adoption by limiting the underlying training data. 52% of executives cite data constraints—inadequate, inaccessible, incomplete, or otherwise unusable data—as slowing speed to market of products. In fact, 56% of insurance tech leaders said their concerns about a lack of proprietary data to customize gen AI models increased in the last six months.[12] These data issues often trace back to siloed systems in multiple technology stacks that make it difficult to share data.

Compounding the data problem, 74% of insurers anticipate that successful enterprises will deploy multiple gen AI models. These will need to connect across the typical financial services data landscape of multiple systems of record, ranging from cloud services to 40-year-old on-premises applications. 85% of enterprises report having data, applications, and services in operation across multiple clouds. All insurance executives report adoption of open standards, while having varying degrees of technology integration across functions (see Figure 4).

For gen AI to support faster product development, organizations must connect data across that infrastructure, including data ingestion and activation. Almost one-third of insurers have achieved this architecture already, reporting they have open, shared, and integrated technology and data across the enterprise.

FIGURE 4

Most insurers have adopted open standards and are beginning to integrate technologies within their technology architectures.



6%

Adopt open standards to enable collaboration and interoperability, but technologies are not yet integrated

61%

Adopt open standards; integrate some technology and share some data across functions and systems

30%

Open, shared, and integrated technology capabilities and data across enterprise

3%

Open, shared, and integrated technology capabilities and data across enterprise and ecosystem partners

Q. Which of the following statements best characterizes your organization's technology architecture?

Action guide

What to do

Generative AI needs to work across the enterprise, not just in a particular claims or policy administration system. Yet 77% of insurers are relying on custom core applications that are more than six years old. Almost half of insurers say their systems are too complex—a line they've repeated for years. They must consider AI approaches that operate within this reality and work to improve the situation over time by adopting a hybrid-by-design, tested and codified architecture and leveraging gen AI to help solve the problem.

Key practices

Build AI across platforms, not into them.
Assess your technology landscape to determine how generative AI workflows can connect to processes and operations that are enterprise-wide, not just in one or two applications. Consider open-source gen AI solutions to facilitate interoperability and containerization. Data access, AI governance, and security should also be deployable enterprise-wide. At its best, AI can orchestrate business processes across multiple systems, providing simpler interfaces for functions with many applications in use, such as underwriting, data science, and HR. AI—and AI developers—should be able to access data from disparate systems such as claims, weather, geolocation, and cat (catastrophe) models, ideally with common data security and governance.

Spend smarter.
Other IBM IBV research reported that only 29% of cloud IT assets and services are performing as required.[13] Organizations can't continue to just dabble with piecemeal cloud investments. It's time to take an intentional hybrid-by-design approach across IT and the enterprise to start paying off technical debt and to bring down high run/build ratios. For AI, consider how open-source AI can reduce expenditure long term; users of open source report three percentage points lower run/build ratios and one-third less overall AI expenditure. Also deploy AI models that can operate in multiple environments, placing AI models in proximity to key marketing, agency, claims, and underwriting data sources. This can reduce run costs while burning down existing cloud provider financial commitments.

Use AI to solve the infrastructure problem itself.
Use gen AI not just to build products and service customers but also to modernize applications. Gen AI can help developers modernize code in older applications and automate many IT and development tasks. This makes new modernization economics possible, avoiding risky and complex core systems consolidations where they are not necessary. Gen AI can also help manage IT infrastructure security and resilience, providing valuable insights to match the right IT workload with the right tools.

Part three

Betting on a flexible operating model

To centralize or decentralize gen AI? That is the question.

As organizations invest in AI and data analytics, they must ensure that their operating model for gen AI supports the rapid development and deployment of new capabilities. But will that be better achieved through centralized or decentralized AI development and services, or some combination of the two?

Insurance executives today most frequently report a hub-and-spoke model, where gen AI is coordinated centrally but performed within the business units. Yet that is gradually shifting to two other approaches. Some organizations are moving toward less centralized approaches, with one centralized unit to provide AI technical services and business units designing and managing their AI implementations (see Figure 5). Others are centralizing AI into a shared service model run by IT.

But insurance executives (business and IT) clearly favor one approach: 71% say that decentralizing gen AI management within business units would speed innovation. Our analysis shows those instincts are correct. Organizations that report choosing more decentralized operating models for AI use case development and AI experimentation are more successful across multiple metrics, including a 2% better run/build ratio, 14% faster speed to market, 9% higher customer satisfaction, and 5% better customer retention.

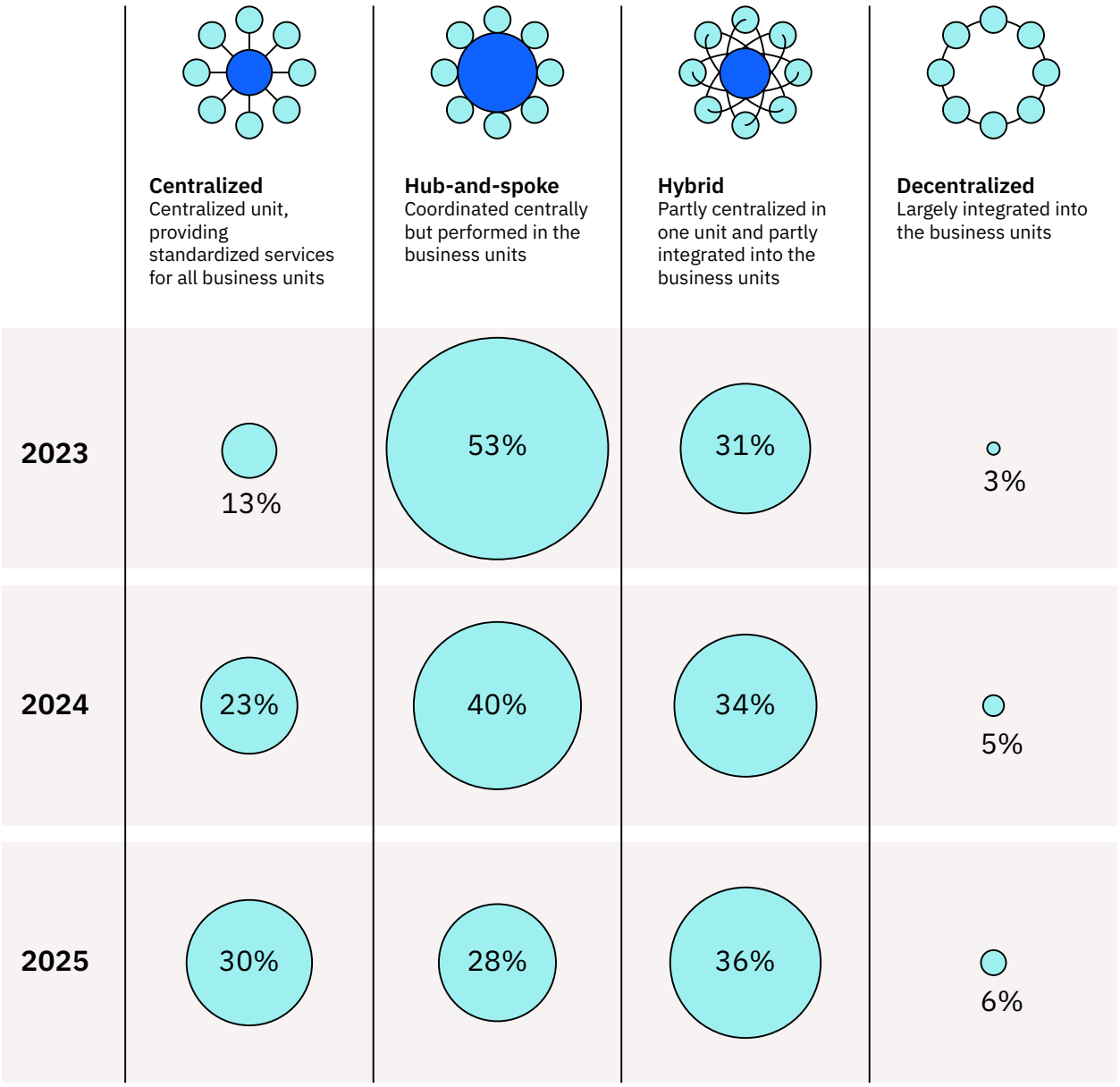
Leadership for generative AI implementation is coalescing around a single model, which is understandable given the insurance-specific risks of gen AI. Insurance executives overwhelmingly report their execution of gen AI falls primarily under one “AI czar” in the IT function, usually with a center of competency to work with business units on execution. Organizations with this structure spend 8% more on innovation overall and 23% more on gen AI than decentralized organizations, and they are 9% faster in introducing new insurance products to market.

71% of insurers say that decentralizing gen AI management within business units would speed innovation.

Hybrid and decentralized approaches to generative AI strategy, however, offer more than cost savings: enterprises that drive AI into more decentralized models are successful in creating significantly more financial products. This directly serves our part one findings where customers are looking for more tailored and matched products for their specific needs. Decentralization of AI use case generation can help create a broader product set—and that is necessary to support what customers want.

FIGURE 5

Insurers' current hub-and spoke operating model for gen AI is evolving.



Q. For each of the following time periods, how would you describe your organization's operating model for generative AI?

Action guide

What to do

Democratize AI decision-making across the enterprise while retaining central governance and implementation competency to assist enterprise functions in generating real gen AI value. Our data shows that insurers with this decentralized AI operating model move new products to market one month quicker than those with a hybrid model. By giving teams the autonomy to identify where AI can best help them and the ability to try different data and AI models for best fit, insurers can drive faster innovation, more personalized customer outcomes, and increased competitiveness.

Key practices

Develop AI governance frameworks.
Establish clear AI open governance frameworks that outline—and enforce—AI model ethics, regulatory compliance, and model performance over time across AI models in play. Include references to emerging AI regulations and standards to be ready for future regulatory changes and to influence development of fair and effective AI policies. Frameworks provide a structured approach to AI deployment across the insurer and compliance with insurance regulatory requirements per jurisdiction, while providing autonomy at the team level to fit AI and data to specific process improvements that benefit the insured. Implement continuous monitoring and feedback loops for AI systems to help ensure they remain effective and aligned with customer needs and regulatory requirements.

Enable cross-functional AI precision.
Develop an AI deployment model that empowers business units, supported by IT and data science. Users close to the customer should access and work with a broad range of models and data. The ideal AI environment will provide curated data access to business users and empower them to try many different AI models to assess initial fit. The IT function then can help optimize the right model and tie it into business processes and applications. Also invest in training programs for employees to understand and work effectively with gen AI, including upskilling staff to handle AI-driven tools, processes, and cross-functional implications.

Empower business units to make AI decisions.
Give business units the autonomy to make AI-related decisions, such as selecting specific AI models, integrating AI into their processes, and determining AI priorities. This enables them to respond quickly to changing market conditions and customer needs. Support innovation close to the point of AI usage, rather than force-fitting a single model to all AI needs. Matching models to requirements enables more on-target model output, helping reduce AI production costs by an order of magnitude.

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Study approach and methodology

The IBM Institute for Business Value (IBM IBV), in cooperation with Oxford Economics, surveyed 1,000 C-level insurance executives in 23 countries in Q3 2024. 60% of the sample represented pure insurers, 35% bancassurers, and 5% insurance captives of non-financial services and insurance industry organizations selling to the wider insurance market. Participants were asked a range of questions in various formats (multiple choice numerical and Likert scale) about their organization's expectations, results, concerns, and barriers for the use of generative AI in various parts of the organization, as well as relevant technological and business KPIs that allowed a quantitative assessment of the efficacy of these uses.

In the same time frame, the IBM IBV also surveyed 4,700 insurance customers in nine countries: Australia, Canada, China, France, Germany, Hong Kong, Japan, UK, and US. Customers were asked a mirror of some of the questions the above executives received on gen AI benefits and concerns, allowing IBM IBV to gauge agreements and gaps in executive and customer perceptions.

The overall goal of the study was to research the effect of generative AI use in customer and intermediary-facing systems on customer experience outcome variables, as well as the effect of gen AI strategy, decision-making, and governance on the efficiency and effectiveness of the overall (backend) insurance IT estate. To accomplish this, the IBM IBV ran a series of independent sample t-tests, highlighting results as shown in this report.

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Related reports

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