GenAI is here are you ready?

A guide to operationalizing GenAI in insurance

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Executive summary

GenAI is the world's newest shiny toy. And if the hype is to be believed (which it is), it's set to create opportunities for innovation, improve operational efficiency, and enhance customer experiences. The challenge right now, however, is that many professionals have only scratched the surface of what GenAI can do and are still unsure of how to leverage it across their organizations.

This is especially true in the insurance industry. Insurers rely heavily on document-intensive processes, and GenAI presents an unprecedented opportunity to drive enhanced results. By embracing these tools strategically, the insurance industry can unlock new levels of efficiency, elevate customer experiences, and increase profitability while effectively managing the inherent risks and pitfalls associated with this revolutionary technology. As GenAI continues to advance with more accurate open-source Large Language Models (LLMs), understanding how to integrate this technology effectively is becoming ever more crucial for staying competitive and gaining an advantage.

In this white paper, we explore the operationalization of GenAI within the insurance industry, providing an overview of the operating model you'll need for scalability and compliance. We also outline the process of implementing GenAI across the value chain of an insurance enterprise.

> No doubt, the hype around ChatGPT has raised awareness of the potential of AI. Rather than replacing people, it enables insurance professionals to provide a better customer experience.

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How insurers are using GenAI

Insurers are currently in the understanding and experimentation phase of GenAI use. Two of their biggest concerns are data security and hallucination (a tendency to create outputs that seem correct when compared to factual data but are simply made up).

While open-source LLMs can drastically reduce data security risks, GenAI's ability to confidently provide incorrect or biased outputs must be mitigated through validation before this data is used to take informed decisions. Even so, in its current form, GenAI currently works well as a knowledge assistant to insurance professionals across the value chain and can help to improve efficiencies internally (i.e., in low-risk, high-impact use cases).

For instance, Zurich is currently conducting experiments involving applications that aim to extract data from claims descriptions and various other documents. To enhance its underwriting process, the company is inputting the most recent six years' worth of claims data. In another example from RGA Data Science, VP Jeff Heaton has said, "RGA is currently in the early stages of evaluating ChatGPT primarily to assist insurance professionals with routine tasks."
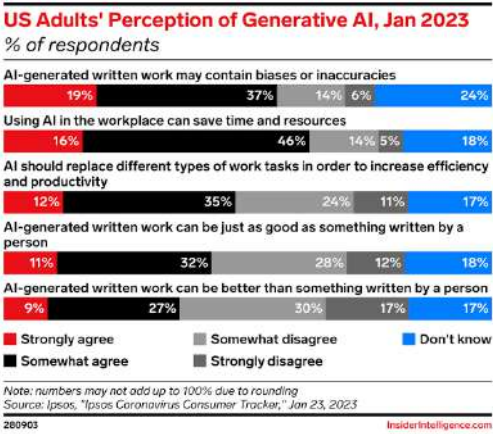
Although insurance providers might not experience an instantaneous impact on their financial performance or customer interaction, a phased value measurement framework assists us in charting the path toward profitable expansion.

The framework below (**Fig. 1**) is helpful for measuring value in implementing GenAI within the insurance and helps us evaluate the advantages it delivers to customers and the business alike.

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GenAI for enhanced outcomes, while protecting the downside

VALUE TO CUSTOMERS

Speed to outcome

- Faster claims

Convenience, ease of business

- Intuitive process
- Information availability
- Reduced consumer complaints, load on customer service.

Superior experience

- Increased trust index
- Higher Member NPS

VALUE TO ENTERPRISE

Day-to-day efficiencies

- Higher productivity (# Quotes/UW, #Claims/Adjustor, etc.)
- Reduced time load

Process Redesign

- Standardization
- Improved humans accuracy
- Lower Attrition

Better financials

- Combined ratio reduction (Expense cost)
- Lower loss ratio (More accurate risk assessment)

Parallelly, key risks need to be guarded against/ mitigated

Risk Mitigation

- Data privacy & security
- Compliance/ legal hassles
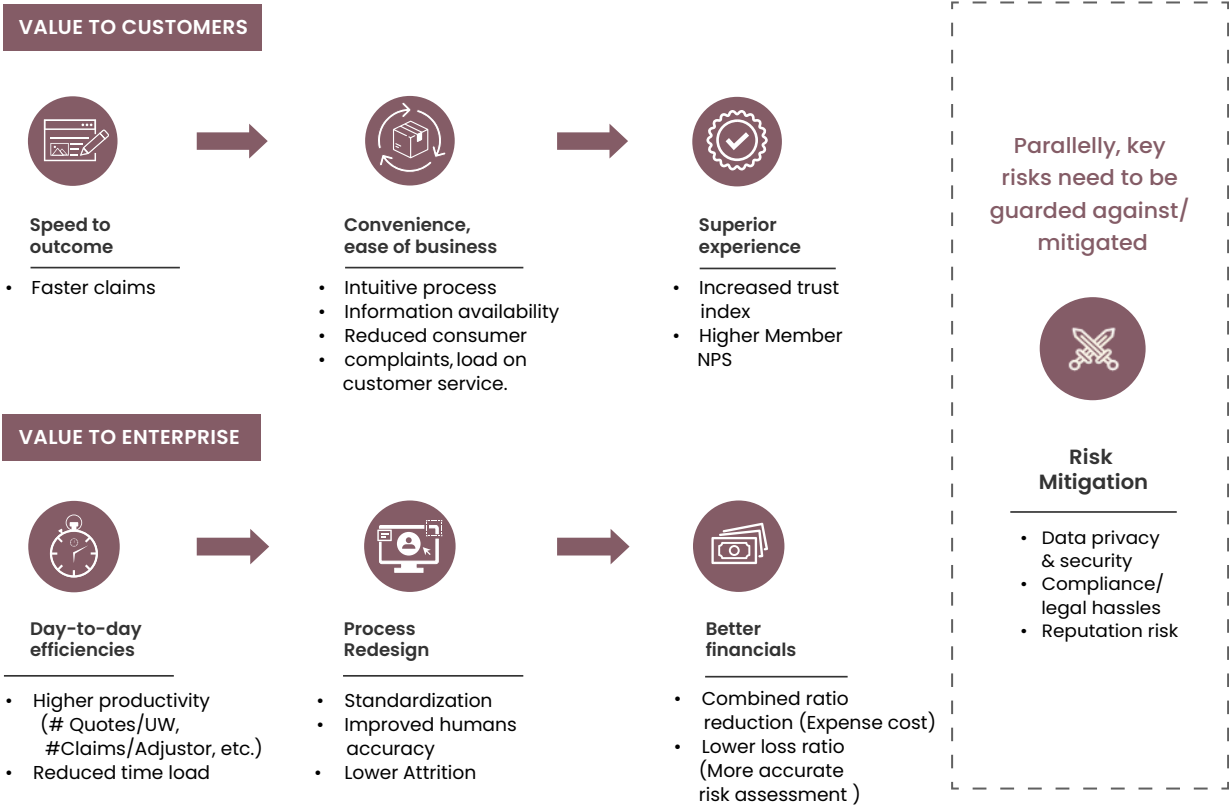- Reputation risk

Fig 1. Value assessment framework

Setting up an operating model for scaled success

A well-defined and scalable operating model is essential to successfully integrate GenAI into insurance operations. The model below (Fig. 2) outlines how the collaboration between the GenAI **Center of Excellence (CoE)**, GenAI core team, and GenAI governance council ensures consistency and efficiency while maintaining strong governance. This operating model focuses on three key areas, namely:

1. Foundation: Assessing the enterprise's readiness for GenAI initiatives and establishing the necessary infrastructure.

2. Operational: Offering oversight and strategic direction for GenAI projects, which involves using expansive language models and agreement on GenAI tools and technologies. The CoE and the core team foster collaboration among data science teams, helping to spread the technology more widely and implement solutions efficiently.

3. Functional: Aligning GenAI efforts with organizational goals, assessing risks, and upholding responsible AI standards.

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This trio of teams collaborates with the legal/compliance department to ensure compliance with existing regulations. As the GenAI initiatives mature to the level of other AI technologies, the governance and CoE for GenAI can be integrated with the broader AI governance and CoE.

Setting up for success GenAI governance

Governance Objectives :

Strategic
- Alignment with organizational goals
- Enterprise risk assessment
- Alignment with ethical standards

Operational
- Oversight of GenAI initiatives
- Establishing the use of LLM models
- Alignment on GenAI tools and technologies
- Alignment between AI/ML/data science teams across the organization to democratize
- Figuring out deliberate zones

Foundational
- Set up the required infrastructure
- Set up the GAI data science team, COE & Governance team

RAI + Legal/Compliance Committee

GAI Governance Council
- *Head of business functions (underwriting, claims marketing)*
- *Head of the compliance team*

GAI Center Of Excellence
- *Head of analytics*
- *GenAI evangelists*
- *NLP/NLG SMEs*
- *Business SMEs (from different business teams)*

GAI Core team
- *Head of Analytics*
- *GenAI experts*
- *NLP/NLG data scientists*
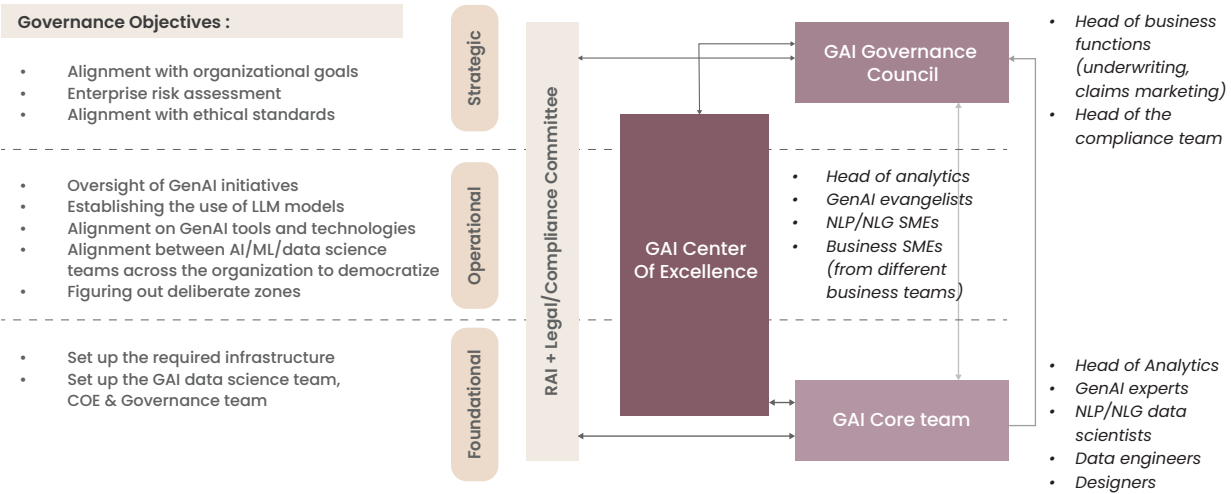- *Data engineers*
- *Designers*

Fig 2. Operating model

Operationalizing GenAI

The potential of GenAI has become increasingly evident, calling for a comprehensive and structured approach to adoption.

To fully leverage the potential of GenAI, businesses must first identify their objectives and determine how GenAI can provide improvements. This involves identifying relevant functions to kick-start training and adoption of GenAI, as well as prioritizing use cases using the 4E framework, which consists of:

Economics:
The strategy's financial aspect involves analyzing and understanding the potential return on investment and profitability.

Exposure:
The level of vulnerability an organization has to reputation risk and compliance issues.

Extensibility:
The ability of a system to be easily extended or modified without the need for significant changes to its underlying structure, allowing for adding new features, functionalities, or modules to an existing system without disrupting its core functionality.

Edge:
The competitive advantage that the tech provides, which involves identifying and leveraging unique selling propositions or critical differentiators.

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Once the use cases have been identified, businesses must select the appropriate GenAI tools and models for implementation, embed the GenAI team across functions, and provide training on prompt engineering. Finally, businesses must define value measurement metrics, set up monitoring tools, review, and audit, and collect feedback to improve continuously.

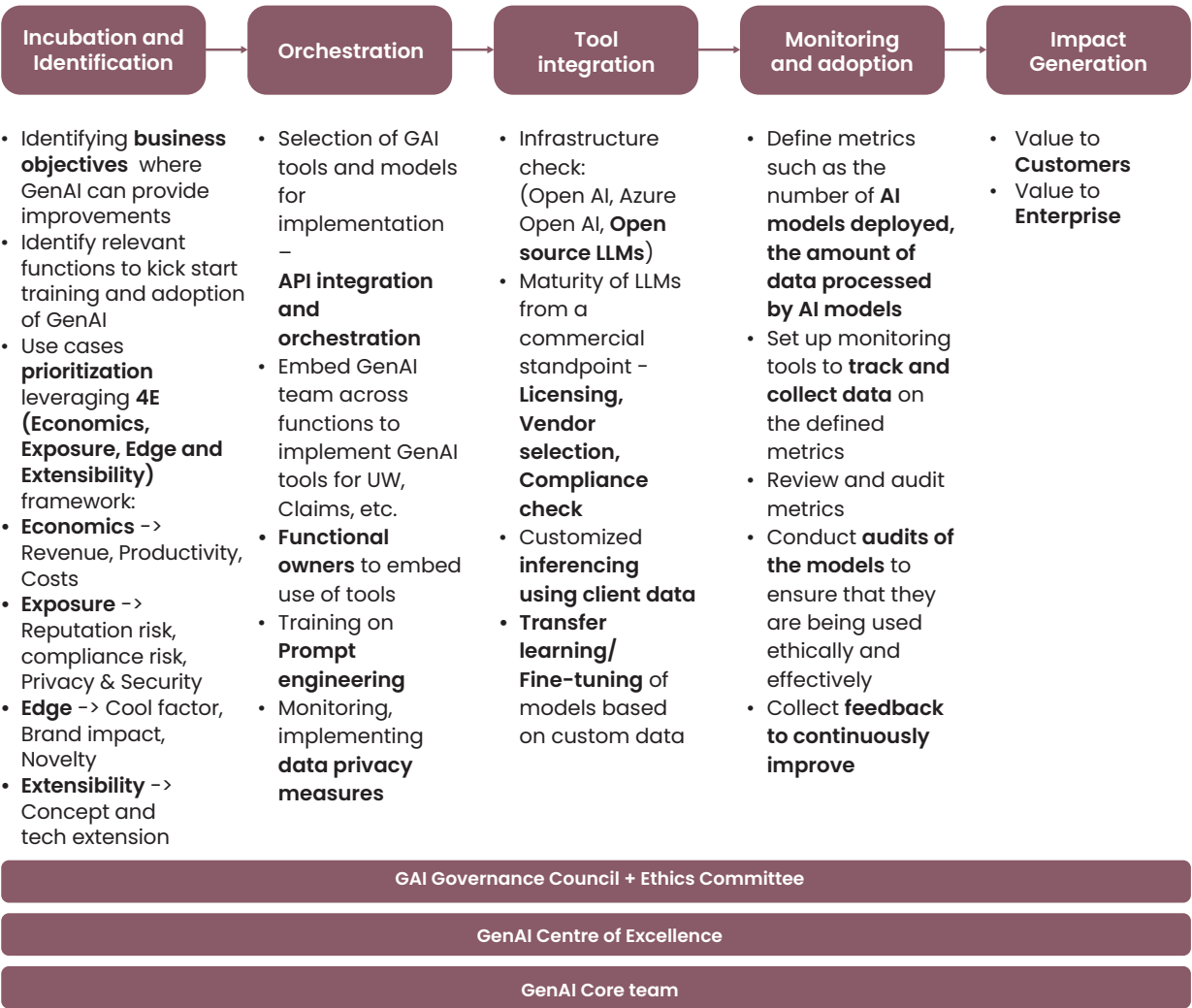## How do we unlock full potential of GenAI to deliver across insurance enterprise?

Incubation and Identification	Orchestration	Tool integration	Monitoring and adoption	Impact Generation
• Identifying **business objectives** where GenAI can provide improvements • Identify relevant functions to kick start training and adoption of GenAI • Use cases **prioritization** leveraging **4E (Economics, Exposure, Edge and Extensibility)** framework: • **Economics** –> Revenue, Productivity, Costs • **Exposure** –> Reputation risk, compliance risk, Privacy & Security • **Edge** –> Cool factor, Brand impact, Novelty • **Extensibility** –> Concept and tech extension	• Selection of GAI tools and models for implementation – **API integration and orchestration** • Embed GenAI team across functions to implement GenAI tools for UW, Claims, etc. • **Functional owners** to embed use of tools • Training on **Prompt engineering** • Monitoring, implementing **data privacy measures**	• Infrastructure check: (Open AI, Azure Open AI, **Open source LLMs**) • Maturity of LLMs from a commercial standpoint - **Licensing, Vendor selection, Compliance check** • Customized **inferencing using client data** • **Transfer learning/ Fine-tuning** of models based on custom data	• Define metrics such as the number of **AI models deployed, the amount of data processed by AI models** • Set up monitoring tools to **track and collect data** on the defined metrics • Review and audit metrics • Conduct **audits of the models** to ensure that they are being used ethically and effectively • Collect **feedback to continuously improve**	• Value to **Customers** • Value to **Enterprise**

GAI Governance Council + Ethics Committee

GenAI Centre of Excellence

GenAI Core team

Fig 3. Operating model

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Use cases

From underwriting and claims management to customer service and risk assessment, GenAI has the potential to transform a wide selection of facets within the insurance industry.

In Fig. 4, we have mapped multiple use cases of GenAI. Its potential impact on the insurance value chain is far-reaching, enabling insurers to streamline operations, mitigate risks, optimize pricing, and deliver superior value to policyholders and enterprises.

Functions					
Marketing	**Sales & Distribution**	**UW & Pricing**	**Risk Management**	**Claims**	**Asset Management**
Use Cases • Personlized targeting & campaign content generation. • Educating & creating.	• Interactions & guidance chatbot for agents. • Cross-sell and Upsell insurance policies with GenAI-assisted agents. • Empathetic AI-powered chatbots to improve customer experience. • Reduce digital friction by customer sentiment analysis on social media.	• Draft policy documents. • Synthetic data for better risk assessment. • KYC & data validation using public, 3PD & policy data. • Digitized policy buying experience. • 24x7 knowledge assistant for UWs (Regulator changes, public info on customers, initial risk assessment, etc)	• Identifying at risk customers for proactive outreach and support. • Detecting & addressing bias in insurance practices to ensure equitable emotional treatment of all customers.	• 24x7 knowledge assistant to adjustors-doc summarization, letter of intent generation, etc • Detect fraud using synthetic data.	• Optimizing investment portfolios by analyzing different combinations of assets and identifying the most efficient portfolio structure. • Forecast market trends, identify investment opportunities. • Real-time monitoring of investment portfolios.
Potential Impact • Higher response rate • Higher customer engagement	• Improved customer experience • More productive & effective agents	• Improved efficiency • Reduced expense cost • Increased risk assessment accuracy	• Increased customer retention • Reduced claim cost	• Accurate severity estimation & reserving • Faster claims processing • Lower claims severity • Reduced LAE	• Higher return on investments

Fig 4: Use cases

Example: GenAI in an underwriter's journey

The integration of GenAI into the underwriting process delivers automation, efficiency, accuracy, and improved decision-making, transforming the traditional journey of underwriters by allowing them to concentrate on intricate cases, consistently follow guidelines, optimize operations, manage risks, and enhance customer experience, all while delivering superior underwriting services.

Figures 5 and 6 provide a comparative analysis of an underwriter's journey within a specific line of business, in this instance, the small commercial property sector, using the example of a city-based café chain's insurance application.

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Typical UW journey for small commercial property

UW Journey

Without GenAI

Collect and Gather

1 Underwriter logs in to the Underwriting Portal

2 Sees a list of quotes which have been declined, accepted and referred for Underwriter's review

❌ The ones that have been declined just have a one liner explanation as the reason of decline – no further details provided

✅ Same scenario holds true for the auto accepted ones - plus, there is no documentary of how the risk impacts the overall portfolio performance of the BOB

➡ For the referred quotes, no priority order exists as well as specifics to be checked for each quote

Assign

3 Underwriter picks up a sample of declined & accepted quotes and does manual reviews to validate the decisions–notices a few gaps in some of the quotes

4 Sees a list of quotes which have been declined, accepted and referred for Underwriter's review

Risk Assess

5 Underwriter reviews all the submitted documents regarding property location, building type, age, construction materials, other occupancies details, fire safety certificates, etc.

6 Determine if they meet the insurers risk appetite & underwriting guidelines.

7 Keys in pertinent information on the pricing tool to get premium & coverage limit/ deductible guidance

Propose

8 Logs into the portfolio management system to check how the risks impact the overall BOB performance

9 In case of quote acceptance, drafts policy papers & sends directly to insured or relevant stakeholders in the organisation to take it forward.

Process

10 Documents the underwriting decision made for each policy & maintain a record of the policy details.

Pain Points

Documents are currently unstructured - Incomplete data — Unstructured quote requests - from agents/ brokers via emails — Extraction using OCRs –*** Manual ways	Multiple Data sources - needs for data harmonisation — Fraud detection - Detecting the right KYC is a challenge - streamlining	Misrepresentation of data - Fraud detection — Not able to understand fraud behaviour	Which UW to assign the quote to?
Decisions are not data driven rather geography – What is driving this decision?	Ingestion period - incompleteness of data - agent / brokers - manual to email	Risk assessment – needs assistance — Not integrated – not consolidation - easy choose & pick for tailored products	Non accuracy
Separate model for coverage, premium offering	Pricing models are not accurate - need to be explainable	Portfolio optimisation	Manual assessment of regulatory documents
Initial policy draft takes time	Binding is not real time		Lack of empathy during rejection

Fig 5. Process without GenAI help and STP workflows in place

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GenAI enabling underwriters to make better decisions with higher accuracy at speed
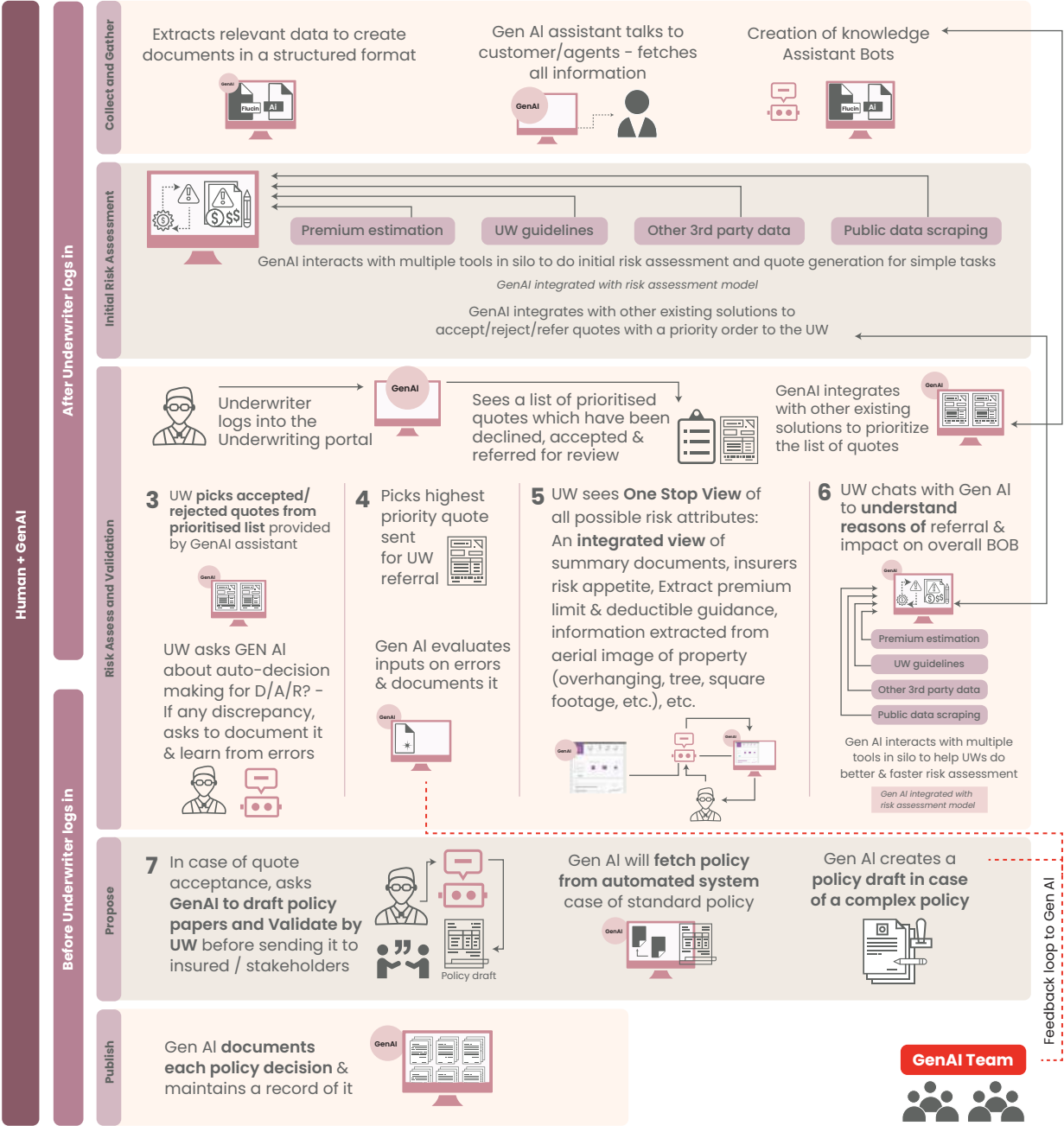

Fig 6. Process without GenAI help and STP workflows in place

Using the power of GenAI, the underwriter journey undergoes a transformation: data analysis is streamlined, processes are automated, and risk assessment is enhanced, leading to more informed decision-making. GenAI empowers underwriters to handle complex commercial risks efficiently, optimize pricing, and deliver superior underwriting services in the competitive commercial insurance market.

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Conclusion

GenAI presents immense potential for the insurance sector, opening avenues for creative solutions, streamlined operations, and improved client interactions. Insurers aiming to harness these advantages should adopt a well-rounded, systematic strategy. This includes establishing a scalable operating model, aligning initiatives with business objectives, and choosing the most relevant use cases for integration. Essential aspects of successful implementation include the judicious selection of tools, training in prompt engineering, and an ongoing commitment to improvement via monitoring and feedback. By wholeheartedly adopting GenAI, insurers can maintain a competitive edge, foster profitability, and deliver superior customer experiences in the ever-evolving digital landscape.

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About Fractal

Fractal is one of the most prominent providers of Artificial Intelligence to Fortune 500® companies. Fractal's vision is to power every human decision in the enterprise, and bring AI, engineering, and design to help the world's most admired companies.

Fractal's businesses include Crux Intelligence (AI driven business intelligence), Eugenie.ai (AI for sustainability), Asper.ai (AI for revenue growth management) and Senseforth.ai (conversational AI for sales and customer service). Fractal incubated Qure.ai, a leading player in healthcare AI for detecting Tuberculosis and Lung cancer.

Fractal currently has 4000+ employees across 16 global locations, including the United States, UK, Ukraine, India, Singapore, and Australia. Fractal has been recognized as 'Great Workplace' and 'India's Best Workplaces for Women' in the top 100 (large) category by The Great Place to Work® Institute; featured as a leader in Customer Analytics Service Providers Wave™ 2021, Computer Vision Consultancies Wave™ 2020 & Specialized Insights Service Providers Wave™ 2020 by Forrester Research Inc., a leader in Analytics & AI Services Specialists Peak Matrix 2022 by Everest Group and recognized as an 'Honorable Vendor' in 2022 Magic Quadrant™ for data & analytics by Gartner Inc.

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