

Generative AI for the insurance industry:

Comparing insurance terms and conditions as another complex, data-rich use case

Following our previous article which highlighted the DORA gap analysis as a complex, data-rich use case, we would now like to discuss the comparison of insurance terms and conditions (GIC¹) as another compelling application of generative AI.

Similar to the DORA gap analysis, the comparison of general insurance conditions (AVB) is also based on the logic of processing several comprehensive documents with the help of technically appropriate prompts. The main difference lies in the structure of the documents. The DORA directive clearly prescribes what content must be included in an ICT contract, whereas no such standardized requirements exist for AVBs. Although the German Association of Insurers (GDV) provides model conditions², these are only intended as a guide for member companies and are not mandatory.

As a result, the document comparison cannot rely on a uniform structure or a consistent logic in terms of content – neither when comparing different generations of an insurer's general terms and conditions, nor when comparing those of different insurers. Therefore, a tailored solution is needed to enable AI-supported comparison of insurance conditions.

AVB comparison using generative AI

From practical experience, we've identified several key scenarios where comparing insurance conditions is particularly valuable:

- **Transparency.** Creating transparency in the cross-comparison of GTC documents that have grown over the years – example – useful for product management or claims settlement
- **Consolidation.** Consolidation of generations of GTCs that are no longer open for sale in order to reduce expenses for premium adjustments or in preparation for system replacements
- **Sales.** Creating comparative overviews of service content across different versions of the company's own company GTC or those of competitors, tailored for sales channels or sales-related office staff.

1. In the following, we use "GTC" in a simplified way, which means all types of general insurance conditions, including motor vehicle conditions (AKB) or legal protection conditions (ARB).
2. See [GDV model conditions](#), accessed on 26.11.2024.

Manually preparing the foundation for such comparisons are tedious and time-consuming – especially when the AVB content and structure have grown over many years. A product manager* would have to read, analyze, compare all relevant documents, differences and similarities in a comprehensible way. This time-consuming activity is not only monotonous, but also prone to errors. Rule-based machine processing also does

not work without enormous effort to create a comprehensive if-then set of rules.

Generative AI, on the other hand, can quickly process large amounts of text without a set of rules and thus offer enormous potential to significantly reduce costs and workload, along with the monotony of AVB comparisons.

Ensuring high precision in comparisons

Today, it is certainly possible to upload AVB documents into a language model such as ChatGPT and request for the differences in these documents. Each language model will then produce a result, if necessary, in table form. However, it remains unclear to what extent this table is complete or to what extent technical vocabulary has been correctly interpreted.

For example, obligations **after** the occurrence of damage cannot be compared with obligations **before** such damage occurred. However, completeness and correct interpretation of technical vocabulary are necessary in the three scenarios mentioned above: transparency, consolidation and sales. To achieve such precision, one needs a deeper professional and technical understanding – and a methodology that considers the special challenges of this complex application:

- GTC documents must be broken down into their individual paragraphs so that it can be technically ensured that each of these sections is checked in comparison
- The prompt, as an instruction to the language model, requires actuarial contextual information to ensure a precise and correct response and avoid unintentionally linking irrelevant or incomparable information together.

Experience shows that older GTC documents, in particular – tariff generations that are no longer open for sale – are sometimes only available in PDF formats. If this is the case, the documents must first be converted into a structured, machine-readable format. There are some common tools on the market for this. However, care must always be taken to ensure flawless conversion or processing to establish a qualitatively sufficient basis for the AI-based comparison.

Each section of the GTC is then analyzed using a series of consecutive prompts to identify and evaluate significant differences in insurance coverage across the versions being compared. The results are then reviewed and refined through an iterative process until the desired level of quality is achieved. This is precisely where the close cooperation of technical and business experts is crucial. Their joint effort ensures that prompts maintain the necessary technical context while remaining compatible with generative AI processing. Such collaboration is characterized by very frequent interactions at short intervals, similar to an intensive agile setting.

The need for the right professional context

The importance of professional context can be illustrated with the following example from motor vehicle insurance – motor vehicle insurance conditions (AKB) usually contain elements for motor vehicle liability and hull insurance, possibly supplemented by motor vehicle accident insurance or other additional coverage types. Comprehensive insurance is sometimes also referred to as vehicle insurance.

If one AKB document uses the term “hull insurance” and the version being compared uses “vehicle insurance,” generative AI may initially interpret these as two distinct insurance products. As a result, the AI might report that no comparison is possible due to the lack of identical products. However, if the prompt explicitly states that both terms are synonymous, the comparison proceeds without issue.

Further preparatory work to ensure high quality results

To achieve high quality and precise AVB comparisons, it is essential to analyze the quality of the input – namely, the AVB documents themselves. While generative AI understands language, effective comparisons require not only machine-readable content, but also a clear structure that enables meaningful analysis. At this point, it is particularly important to have a stringent structure or heading logic of the GTC. If this is available, generative AI quickly produces strong results. If it is missing, it is advisable to manually retrace structure logics before initiating comparisons.

Here are examples that illustrate this:

- **Generative AI tracks history.** When sections are numbered hierarchically (e.g., 1, 1.1, 1.1.1), the AI can accurately determine the level and context of each heading. If this logic is missing or headings are presented in bold without numbering, the AI cannot properly place sections within the overall structure, leading to further inaccuracies
- **Generative AI ignores formatting.** If italicized headings appear before section numbers, the AI may mistakenly assign the heading’s content to the previous section. This misalignment can distort the comparison results by mapping content incorrectly.

Complex data-rich use cases

With the DORA gap analysis featured in the third article of our series and the condition comparison discussed in this article, we have explored two complex data-rich use cases. To conclude, we present a comparative analysis highlighting key differentiation criteria:

Criterion	DORA gap analysis	Condition comparison
Input	Multiple ICT contracts, DORA regulation	Multiple GTCs from a single insurer or multiple insurers
Structure of the input	Uniform structure based on DORA requirements	Different structures, no clear specification
AI application methodology	Iterative development process using a single prompt	Iterative development process using multiple prompts
Output	Compliance report evaluating the degree of DORA fulfilment	Comparative overviews assessing the criticality of differences
Application Objectives	Verification of DORA compliance	Transparency, consolidation, and comparison of service content
Necessary preparatory work	Conversion to machine-readable format, rule identification	Conversion to machine-readable format, restructuring, creation of an outline logic
Challenges	Ensuring completeness of the DORA compliance check	Ensuring completeness as well as correct interpretation of insurance terms and conditions
Advantage of using AI	Reduction of manual effort, costs and susceptibility errors	Reduction of manual effort, costs and susceptibility errors

Conclusion

In our next article, we'll broaden the scope beyond complex, data-rich use cases and explore automation opportunities powered by generative AI. While in our previous articles, AI acted as a kind of work supporter/preparatory tool, it is now increasingly stepping into the role of an actionable assistant – especially in automation scenarios.

If you're interested in discovering how generative AI is being practically applied in projects to eliminate monotonous manual tasks, feel free to reach out. You'll also gain insights into how various types of generative AI use cases can be implemented in real-world projects with hands-on practicality.

*** Diversity is one of Capco's core values. In order to keep texts as short as possible for you, read only the masculine form in some places, but all genders are explicitly meant.**

Authors:

Dr. Lina Schröppel

Managing Principal

Lina.Schroeppel@capco.com

Dr. Oliver Hübner

Associate Partner

Oliver.Huebner@capco.com