



# A hidden hero for non-life actuaries: AI-led knowledge management systems

Imagine a family stranded at a rain-soaked airport, in an unknown country. Their luggage is misplaced, their pre-booked car is not in the records and to top it all off – they are not the only travelers who are stuck and as a result the claims to their respective insurance companies keep escalating.

Now think of the crisis from the other side – the insurance handler. The actuaries may have constructed a perfectly well-rounded risk model that accounts for hub-specific baggage mishandling, regional weather conditions and a clear mathematical calculation between involuntary disruptions and voluntary alterations. And the expectations that these parameters will be seamlessly applied on the ground. However, this model only holds true if front-line handlers follow the precise procedures and protocols intended by the design.

In the chaos of high-volume procession, the front-line handler hurriedly scans through their fragmented policy base, misinterprets the nuances in the exhaustive policy and incorrectly disperses the claim. The result? Inconsistent ruling, frustrated customer experience and potential re-claims that drag for months – all because the finer details described by the actuary were not correctly interpreted by the handler.

## FINER DETAILS DESCRIBED BY THE ACTUARY WERE NOT CORRECTLY INTERPRETED BY THE HANDLER

Scenarios like these are more common than industry benchmarks suggest – because while actuarial models rely on predictable and structured inputs, claim handling occurs almost always in an unpredictable environment. A handler has to cross-reference a single document of claim that includes loss reports, estimates, surveyor reports, photos, free text notes etc against documented policies and regulatory guidelines – and sometimes, what the memory best remembers.

This introduces 2 potential risks to the business:

- Financial hurt – misinterpreting the report or not reading the latest changes made to the policy can result in payouts that don't align with the contractual intent;
- Brand damage: incorrect claim denials lead to litigations, erosion of trust, compliance audits and ultimately hampering the customer's trust on the insurance company.

In order to minimize these risks, the correct setup of Knowledge Management is not an option, it's a necessity.

## AI-LED KNOWLEDGE MANAGEMENT SYSTEM ACTS AS AN OPERATIONAL BRIDGE

What is traditional knowledge management (KM)? At its core, KM is the practice of capturing, organizing, and distributing a department's collective intelligence so that employees can have the right information at the right time. While traditional KM relies on static knowledge bases, AI-driven knowledge management keeps the knowledge source alive using technologies like semantic search and retrieval-augmented generation (RAG).

An AI-led KM system understands the context as it is being set by the customer and helps retrieve exactly the type of knowledge the insurance handler needs to process the claim in the best way forward. It also helps companies with diverse groups of handlers to standardize the interpretation. In addition, an AI-led KM system also helps with:

- Reduction of subjective interpretations and aligning actual ratios with priced expectations.
- Clear knowledge path for external regulators and internal risk management.
- Policy updates are made centrally and don't need to be cascaded via the line of command or through lengthy training.

## THE RISKS TO CONSIDER

But does this mean this process can be fully automated? The answer is **No!** Like any other AI-led technology, humans need to be in the loop to verify if the recommendations are correctly applicable in the claim or not. While AI can understand context and help surface the exact piece of information from a dense policy, a human can correctly identify high-value customers or ambiguous claims.

A common understanding in the AI world is – garbage in, garbage out. The AI-led KM system can only be as good as its governance. If the data source is outdated, the system will not know what has changed and

will continue to churn out recommendations that are not in line with the latest policy updates. So, it is imperative that a trusted group of knowledge practitioners are in charge of the data source that feeds the AI-led KM systems.

Another risk is hallucination, or simply put, wrong interpretations. Strict RAG boundaries like restricting the system to derive context exclusively from verified documentation and process flows helps keep this in check.

## CONCLUSION:

Actuarial excellence goes beyond modeling and statistics – the true victory lies in the execution. Execution that relies on a fragmented approach and subjective interpretations can continue to contribute towards profitability erosion. Driven by high-frequency customer interactions, some Dutch companies like Booking.com and Adyen have invested heavily in AI-led Knowledge Management architectures to maintain operational speed and precision at scale – offering a blueprint for insurance claims transformation. By adopting AI-led Knowledge Management systems as a core operational risk control tool, insurance companies can ensure that claims handling will reflect the actuarial design by protecting solvency and reducing claims variance. ■

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