NOT IF, BUT HOW

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Leveraging your data to maximise underwriting efficiency

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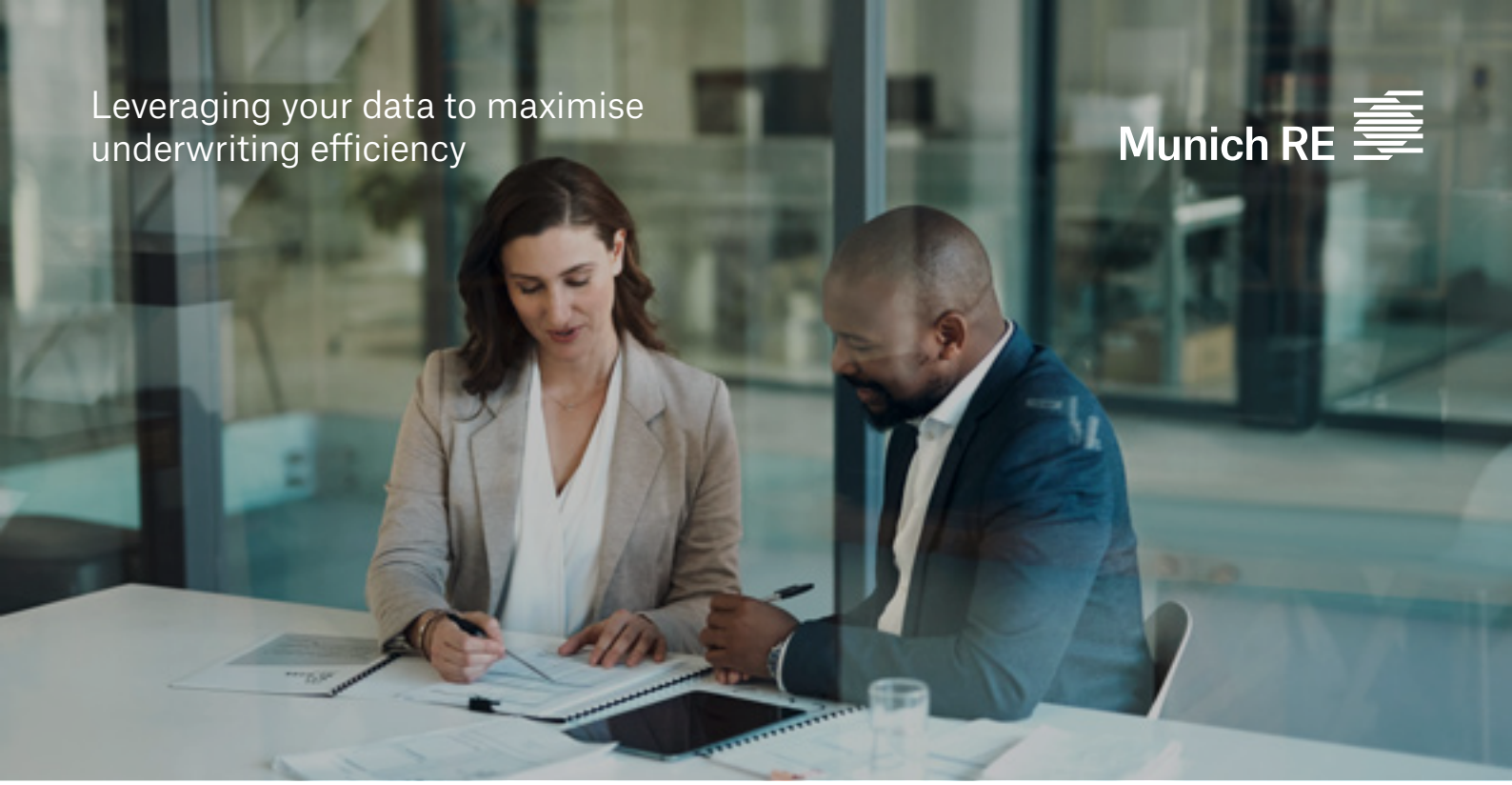

Introduction

The insurance industry has always had an abundance of data. Historically, insurers and underwriters relied on manual and time-consuming data-driven methods for risk assessment, including actuarial calculations and laborious underwriting processes.

With the rise of digitisation and artificial intelligence (AI), insurers can finally leverage strategic use of data to unlock its real value.

When insurers treat data as a strategic asset, it leads to new efficiencies, insights, and capabilities. The industry is ripe for a data revolution, but it requires a shift in cultural mindset and a data-first strategy.

"Data is often viewed as a costly necessity and a byproduct by many companies...(but) more innovative organisations see things differently. They understand that data is a strategic asset."

Deloitte AI Institute[1]

[1] https://www2.deloitte.com/us/en/insights/industry/financial-services/insurance-data-as-a-strategic-asset.html

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The journey towards data-driven augmented underwriting

The evolution of underwriting technology has progressed through several iterations over the years.

Digital Roadmap: The evolution of underwriting

01

Paper-based environment

- Manual underwriting
- Labour intensive

02

Digitisation

- Introduction of systems and basic validation rules

03

Electronic underwriting

- Ability to adopt insurers' own underwriting philosophy
- More easily monitor and analyse rules

04

Descriptive analytics

- Next level rule analysis, including dashboards and reports
- Underwriters granted more autonomy

05

Augmented underwriting

- Incorporates 3rd-party and other standardized data to identify patterns
- Leverage AI and ML techniques

Phase one: Paper-based environment

Insurers and underwriters worked in a paper-based environment, carrying out most processes by hand. External data e.g. medical reports were manually incorporated into the process to inform decision-making. Insurers hired additional support staff to handle the extensive workload, resulting in a costly, time-consuming, and error-prone underwriting process.

Phase two: Move to digitisation

Data-siloed systems initiated automation in underwriting, introducing clear casing for pre-existing back-office models. Life insurance organisations were able to process application forms with non-disclosures and check them against basic validation rules.

Digitisation sped up the onboarding process and increased efficiency, but lacked the transparency required to gain insight into the full underwriting process.

Phase three: Electronic underwriting

The birth of electronic underwriting offered insurers the opportunity to develop, review and change their own underwriting philosophy. They could more easily monitor, analyse, and optimise the ruleset to increase straight-through processing (STP) rates.

That said, these new abilities held major constraints. Instead of being fully digitised, they still required IT and human programming expertise. And following initial underwriting interviews, potential change requests continued to be sent to reinsurers for manual input, creating lengthy queues and hindering efficiency.

Phase four: Descriptive analytics

Descriptive analytics empowered underwriters with statistical techniques to summarise data effectively, improving efficiency in managing new business processes. They effectively took analysis and optimisation to the next level. Insurers could take insights from dashboards, reports, and graphical user interfaces (GUIs) and analyse them effectively to offer customers the best premiums.

Descriptive analytics also enabled underwriters to manage rules themselves, without relying exclusively on IT expertise. This afforded them greater flexibility and empowerment to significantly boost efficiency.

Phase five: Augmented underwriting

The rise of advanced analytics marks major progress in the underwriting space. The acquisition of data from third-party sources and the standardisation of data means underwriters can accurately and instantaneously use data points to identify patterns that would be undetectable to humans, thereby unlocking risk-based decision-making. Insurers can leverage AI and machine learning (ML) techniques, allowing them to gain an in-depth understanding of safe and secure customer data and make better-informed decisions. This increases STP, as well as the streamlining of application forms and medical requirements.

Next-generation systems integrate predictive models into existing automated processes, thereby augmenting automated underwriting (AAU) capabilities.

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Ensuring success

The state of insurers' data often prevents them from unlocking its full value. In the policy lifecycle, data sits in different systems such as point of sale (POS), underwriting, policy management and claims systems. These different systems have their own data siloes, use different IDs, labels, and formats. The result is that there is no easy access to the data across its entire lifecycle. This presents challenges from a business process perspective and in terms of training data models for predictive capability.

Data transparency is also crucial in enabling insurers to ensure compliance and mitigate regulatory risks. By tracking data provenance and maintaining an auditable record of decisions, insurers can improve compliance and better detect and prevent fraud. Transparent and open data practices are essential for developing responsible and accountable systems that can be effectively governed and regulated. Through deploying an open data strategy, insurers can therefore prepare for the future by ensuring responsible AI.

The value of linking data

By linking data, insurers can gain a holistic end-to-end view of the entire policy lifecycle. This overview allows organisations to better understand market dynamics and shifting customer behaviour, to uncover new business opportunities, improve products and services and unlock key insights for data-driven decision-making.

Setting up a successful open data strategy

The success of an open data strategy is contingent upon the availability of data in a usable format. This means that both transactional and raw metadata must be accessible in a variety of technical ways for internal and external systems to access it, for example via SQL, dashboards, API, or CSV.

Data must also be standardised so that it can be easily consumed and understood. It must be documented, labelled and explainable, with standardised date formats, names, and addresses. Data points should be labelled and structured in a way that can be easily understood by data scientists, with accompanying data dictionaries and meta data analysis. Data must also be optimised for AI and include provenance for metadata. As data is the product, it must be subject to the same service level agreements (SLAs) as other systems in the organisation.

Furthermore, data must be accurate and reflective of ground truth, with missing data extrapolated.

Using unvalidated data can result in implicit or explicit biases or other unexpected and undesirable outcomes. It is also vital that data is secure, auditable, and compliant with privacy regulation.

Finally, data must have high availability – day in, day out and all year round. As much as 99% availability is preferred and a fast response time is also crucial.

Data rights and security

As more and more personal data is gathered by insurers, concerns over data rights and privacy have multiplied. Failure to handle personally identifiable information (PII) with care could result in the loss of customer trust, reputation, and large fines for non-compliance with data protection regulations. Insurers must implement cybersecurity measures to prevent data breaches, protect customer data, and ensure that PII is redacted from insurance documents before disclosure or filing.

"In a recent survey, only 32% of data leaders said that they collaborated very closely with their colleagues in compliance."

Deloitte[2]

The best insurers therefore invest heavily in continuous security and compliance improvements to ensure the protection and anonymity of sensitive customer data.

Incorporating third-party data

Digital transformation among insurance companies is now table stakes, but few insurers have the in-house capacity to continuously innovate and optimise their systems. By working with trusted partners to incorporate third-party data, insurers can quickly create flexible platforms that meet evolving customer expectations and scale as required. This innovation-first approach allows organisations to dedicate their time, energy, and resources on maintaining their core systems, while driving momentum and providing better customer experiences.

However, incorporating third-party data requires further investment in data protection and compliance. Insurers must ensure consent, protect all sensitive PII, and take steps to ensure that data usage adheres to relevant regulations.

The importance of data visualisation

"The most valuable thing you can have as a leader is clear data"

Ruth Porat,
CFO of Alphabet and Google[3]

To take full advantage of their data, insurers must be able to read, analyse and compare data sets easily and in real-time. This can be difficult to achieve, and so out-of-the-box dashboards can be instrumental in enabling finger-on-the-pulse monitoring from day one. Not everyone is a data scientist, with the ability to crunch numbers and decipher meaning from them, so it is crucial that dashboards are interactive and easy-to-use.

By visualising data, insurers can:

- Monitor the overall insurance underwriting process and carry out deeper analysis where required, including exploration of STP rates, trends, frequency and cost of evidence, rules triggers and free text analysis.
- Identify and respond in real-time to developing threats and trends.
- Analyse manual underwriting performance including underwriter workloads, average underwriting duration and trends, and rules impacting referrals.
- Evaluate the efficiency of processes and identify the most-triggered rules and base questions.
- Improve risk assessments by introducing interactive visualisations that can be used to explore different scenarios to understand the range of outcomes, or to better understand the risk profile of specific product lines.

With access to easy-to-understand dashboards, teams can keep track of key metrics, emerging trends, and quickly define potential problems before they escalate into major issues. They also enable insurers to unlock powerful and timely insights that can improve decision-making. In our fast-moving landscape, the ability to act fast can make all the difference.

[2] https://www2.deloitte.com/us/en/insights/industry/financial-services/insurance-data-as-a-strategic-asset.html
[3] https://technologymagazine.com/digital-transformation/top-100-women-2024-ruth-porat-google-no-2

Data in predictive analytics and augmented automated underwriting (AAU)

Through utilising predictive analytics, insurers can leverage data, AI and machine learning techniques to accurately predict risk, customer behaviour and claims outcomes. The use of AI and predictive analytics therefore speeds up the underwriting process, by enabling data to be processed more efficiently and accurately. Insurers and underwriters can anticipate their customers' needs better, provide more personalised services, and boost operational efficiency.

When utilised effectively, data analysis allows insurers to meet their customers' expectations. According to Accenture[3], 60% of customers would be willing to share their personal data for faster, easier services, such as insurance claim processing without lengthy application forms. Nowadays, insurance customers expect a high level of personalised service.

Enter AAU

AAU integrates predictive models into existing automated processes, enhancing previous capabilities and improving efficiency even further. Augmented underwriting can assess risk more accurately and quickly, thus further boosting STP. It enables more data-driven decisions, more accurate risk assessment, and faster processing.

Barriers to unlocking the value of data

While the motivation to invest in analytics has never been greater, there are significant challenges for insurers wishing to capitalise on their treasure troves of data. Barriers such as siloed systems, talent gaps, and heavy regulation are preventing many insurers from taking full advantage of their data.

Tools

The industry is flooded with one-off tools performing point solutions, each with their own bespoke data set. These tools also tend to be technical in nature, making it difficult for non-technical underwriting teams to understand and use them. In-house IT security systems are often siloed and limit the organisation in terms of fulfilling its tech potential.

It is therefore difficult for insurers to ensure that the right teams have the right knowledge, enabling them to gain the most out of each tool.

Data

Research[4] shows that data in insurance organisations is often siloed by function, system, and platform. It is challenging to combine data sets across the application lifecycle and third-party data only adds further complexity. The result is that many insurers remain in the initial stages of data management maturity.

In a recent survey[5] most respondents cited data among their top five roadblocks to scaling advanced analytics. Alignment across departments, both in terms of the prioritisation of use cases and on their execution, is essential.

[4] https://www.accenture.com/content/dam/accenture/final/industry/insurance/document/Accenture-Insurance-Consumer-Study-People-Before-Policies.pdf
[5] https://www.mckinsey.com/industries/financial-services/our-insights/on-the-brink-realizing-the-value-of-analytics-in-insurance

Talent

The insurance sector has many skilled teams of experts for exploratory data analysis, as well as data engineers and DevOps to manage the lifecycle. However, it is difficult to find a good mixture of domain-specific knowledge and data science. In a recent survey carried out with global insurance analytics leaders[6], talent ranked third on the list of concerns, behind integration and data quality challenges.

In a separate study[7], insurers reported that they aim to nearly double their analytics talent over the coming two years. However, most organisations lack a clear hiring, retention, and capability-building strategy for their data analytics teams. If organisations are to solve the talent issue, they must strengthen both their recruitment and retention programmes.

Data governance and regulation

Data governance is a key area in an industry reliant on sensitive, personal customer data. Organisations must ensure data privacy and stewardship within and outside their walls.

Heavy regulation across the insurance industry adds further challenges for insurers embarking on ambitious data and AI strategies. They must establish responsible and ethical use of AI, as well as transparency of model decisioning and explainability.

[6] https://www.deloitte.com/cbc/en/our-thinking/insights/industry/financial-services/insurance-data-as-a-strategic-asset.html
[7] https://www.mckinsey.com/industries/financial-services/our-insights/on-the-brink-realizing-the-value-of-analytics-in-insurance

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Data will be insurers' future growth engine

The industry has always dealt in data, but it has not always been able to put that data to optimal use. Until now. Today, the effective use of data and analytics is the greatest source of competitive advantage in insurance and underwriting.

Harnessing both internal and external information can enable insurers to improve decision-making, boost STP and better serve their customers. More data, better tools, and new applications are creating compelling opportunities across the industry. The impetus to utilise analytics has never been greater and the mechanisms to do so are finally available.

However, it is far from a straightforward task. Leveraging data effectively and implementing predictive models still requires complex, organisation-wide changes. Great model outputs will never provide business value if the execution is not right. Leaders and key stakeholders must own their organisation's data goals. Alignment across the entire business is also essential.

"Insurers should be thinking bigger picture, taking steps to raise the data literacy and capabilities of their personnel as well as advance their operational maturity. They should be elevating data and analytics from an enabler of efficiency and risk reduction to a differentiator generating innovation and growth."

Deloitte[8]

McKinsey[9] has stated that investing in data and analytics will be the "difference between slowly declining and flourishing" businesses in the insurance sector. Right now, early adopters of data-fuelled analytics and automation are gaining a competitive edge. Insurers looking to future-proof their businesses must view data as a strategic asset, to stay ahead of the curve.

[8] https://www.deloitte.com/cbc/en/our-thinking/insights/industry/financial-services/insurance-data-as-a-strategic-asset.html

[9] hhttps://www.mckinsey.com/industries/financial-services/our-insights/restore-and-reimagine-digital-and-analytics-imperatives-for-insurers

About Munich Re Automation Solutions

Munich Re is one of the world's leading providers of reinsurance, primary insurance, and insurance-related risk solutions. Munich Re Automation Solutions, a Munich Re subsidiary, is the world-leading provider of digital new business, underwriting and analytics solutions to the insurance industry. Working with forward-thinking customers across the globe, we're on a mission to revolutionise the way life insurance is bought and sold, using next-generation technology to give insurers the power to grow their businesses profitably.

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