



HARNESSING THE POWER OF INSURANCE ANALYTICS THROUGH DATA FABRIC ARCHITECTURE

Abstract

Insurance analytics systematically analyses insurance data to help insurers predict customer needs, generate leads, pre-empt risks, mitigate claims fraud, and make the right decisions. Though a huge amount of data is collected by insurers, the data garnered is often fractured and siloed. Therefore, it prevents users from gaining actionable insights for swift and timely decision-making. Here, we take a deep dive into how a data fabric architecture can fortify insurance analytics to enable insurers to amplify new business revenue opportunities, optimise operations, and reduce claim costs.



Challenges in insurance analytics

In a data-driven world, insurers are keenly aware of the need to aggregate data and extract relevant insights to retain a competitive edge. Despite access to vast amounts of data on customers, brokers, vendors, and service providers, they face several challenges in leveraging data analytics to reach their business goals.

Fragmented data

In a data-driven world, insurers are keenly aware of the need to aggregate data and extract relevant insights to retain a competitive edge. Despite access to vast amounts of data on customers, brokers, vendors, and service providers, they face several challenges in leveraging data analytics to reach their business goals.

- **Fragmented data:** Insurance analytics is plagued with poor data quality due to the storage of large volumes of unstructured data, scattered and siloed in different data repositories and managed by various teams that seldom share information. It may lead to data duplication as the same data may be stored in different systems in different formats. Besides, lack of standardisation of the data gathered from asset managers, reinsurers and other external sources is another challenge that hinders effective utilisation of data.
- **Legacy systems:** Several insurers store their data in desktop-based systems, which employ antiquated software or legacy systems that use outdated computing software or hardware. Although legacy systems perform certain basic functions, they are prone to becoming obsolete or unwieldy over time, especially with the influx of new applications that create a multi-layered IT architecture, leading to potential redundancy. This problem is compounded by the lack of common data definitions, structures, and models.
- **Lack of tools to analyse data:** Data access and data capture are no longer viewed by insurers as barriers. However, the rapid multiplication of data sources has been a hindrance to obtaining valuable insights from insurance analytics. Without the right tools for efficient data preparation and cleansing, teams are unable to perform value-added tasks such as model development. Further, seamless integration of new and traditional data on customers and policy records requires advanced and updated tools.



Elevate data management and insurance analytics with a data fabric architecture

A data fabric is a data integration and management solution that provides:



An end-to-end information architecture for automated data discovery



A unified view of disparate data sets



Consistent user experience



Real-time access to data

Insurers It allows insurers to collect, govern, curate, share and orchestrate their entire gamut of complex customer and vendor data, including siloed data, by providing connective tissue interlinking data endpoints.

A data fabric architecture continuously gathers data from diverse sources and applications and consolidates the available data points to draw unique insights. In case of failed integration during the blending of new and traditional data, it performs auto-profiling and auto-healing to repair data. Further, as an approach, data fabric helps insurers overcome data management barriers and ensures that they have continuous access to trustable data to facilitate making prompt, effective and high-impact decisions. Such a digital solution enables an organization to become hyper-productive as well.*





Cornerstones of a data fabric architecture

In order to gain business value, insurers must choose a data fabric architecture that provides a formidable technology base, advanced cloud computing capability and cutting-edge data management tools. The following key pillars of a robust data fabric help insurers in choosing a suitable data fabric solution to enhance their insurance analytics infrastructure.

- **360° metadata collection and analysis:** Insurers collect metadata on customers, underwriters, customer-agent interactions, operations, and social media communication. A dynamic data fabric design is built on layers of this heterogeneous contextual information. To enhance the management of their stakeholder relationships, policies, claims and underwriting, the data fabric chosen by insurers must possess an efficient mechanism to collect, identify, link, harmonise and analyse a wide array of metadata.
- **Conversion from passive to active metadata:** For data sharing to be quick and frictionless, insurers must choose a dynamic data fabric that continuously converts passive metadata to active metadata. An ideal data fabric constantly analyses the various data sets on key insurance metrics and statistics. Then, it builds a concise graph model to illustrate metadata and the interrelationships between the data points. In addition, leveraging key metadata enables AI or ML algorithms to generate predictive models that can guide insurers towards making well-informed decisions.
- **Generation and curation of enriched knowledge graphs:** Insurers can derive maximum business value when the data fabric used by them presents a comprehensive knowledge graph. These knowledge graphs are infused with a semantic network consisting of real-world data points such as objects, concepts, and events. Further, a knowledge graph facilitates an in-depth understanding and establishes a meaningful relationship between data points. AI or ML algorithms can then use this structured information for accurate analytics.



Benefits of deploying a data fabric for insurance analytics

Insurance is a data-sensitive business that can benefit from a real-time, high-speed, and scalable data fabric architecture, which bolsters insurance analytics for efficient and effective decision-making. Here are some advantages of employing a data fabric for insurance analytics.

- Gain a holistic view of customer, underwriter and vendor data captured from all touchpoints on a customised and feature-rich dashboard that seamlessly integrates data and eliminates silos.
- Simplify insurance data management by integrating multiple systems and tools for improved data quality, governance, analysis and sharing.
- Achieve greater adaptability to increasing volumes of insurance data, diverse data environments, multiple data sources and applications, to deliver fast-paced, agile, and cost-effective scalability.
- Leverage on-premises, hybrid, and multi-cloud modes to integrate diverse environments and facilitate faster and smoother migration between environments.
- Modernise legacy systems and solutions with a future-proof insurance data management infrastructure that allows seamless amalgamation of new tools and technologies without disrupting existing ones.

Conclusion

Data fabric is rapidly changing the face of insurance analytics owing to its ability to efficiently ingest a wide spectrum of data from multifarious data sources in various formats. It helps overcome data gaps,

data duplication, data inconsistency and issues related to data-trust. Further, when compared with other data management options such as data lakes and data warehouses, a data fabric emerges as

the data architecture of choice. This is due to the ability of a data fabric to store, integrate, analyse, and deliver real-time insights to help insurers make powerful decisions.

*For organizations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed on organizational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive, yet modular suite of services is doing exactly that. Equipping organizations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, Live Enterprise is building connected organizations that are innovating collaboratively for the future.

For more information, contact infosysbpm@infosys.com

Infosys[®]
Navigate your next

© 2022 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.