

The Power of the Semantic Layer in Insurance

The insurance industry is undergoing a significant transformation, shaped by intensifying regulatory demands, shifting customer expectations, and the rapid emergence of digital-first competitors. These changes are compounded by data-related challenges that hinder insurers from unlocking the full potential of their analytics.

Fragmented data silos spread across legacy systems, third-party providers, and cloud platforms create significant obstacles to gaining a unified view of operations. Transforming this raw, disparate data into actionable insights requires complex, time-consuming processes that strain IT resources and delay decision-making. Additionally, inconsistent data definitions across business units lead to conflicting insights, eroding trust in analytics and slowing innovation. Insurers also face mounting pressure to improve operational efficiency while reducing costs, particularly as the volume of data from IoT devices, telematics, and customer interactions grows.

In this complex environment, agility and precision are non-negotiable. A semantic layer offers a transformative solution, simplifying access to complex data, ensuring consistency, and fostering trust across analytics efforts to enable faster, more informed decision-making.

A [semantic layer](#) is a business representation of data that enables insurers to derive trusted insights using familiar terms like “policyholder,” “claim,” and “premium.” It provides a unified, consistent view of data across the organization, empowering both technical and non-technical users.

Insurance companies leveraging a semantic layer have achieved:

12x

Improvement in
dashboard
performance

70%

Reduction in
cloud compute
costs

Time-to-
insight

Accelerated across
operational, financial,
and customer data

Data Challenges in Insurance Solved with a Semantic Layer

- **Data Silos:** Insurance data is often fragmented across legacy systems, third-party sources, and cloud platforms. A semantic layer consolidates these sources into a single virtual view.
- **Complex Data Preparation:** Transforming raw data into usable insights requires specialized technical expertise. A semantic layer automates much of this work, reducing dependency on IT resources.
- **Inconsistent Reporting:** Disparate data definitions across business units lead to conflicting insights. A semantic layer ensures all analytics tools and teams use consistent metrics and definitions.

How Insurance Companies Use a Semantic Layer



PMPM Metrics

Streamline PMPM calculations, optimizing care distribution, improving outcomes, and reducing costs.



Claims Optimization

Enhance triage, fraud detection, and cycle times by integrating claims, policy, and external data for real-time insights.



Customer Retention

Analyze churn risk and target retention efforts by unifying CRM, marketing, and policyholder data.



Regulatory Compliance

Automate reconciliations and ensure consistent, audit-ready metrics for regulatory reporting.



Operational Efficiency

Enable faster underwriting and actuarial insights by centralizing and harmonizing data access.

The ROI of a Semantic Layer

- **Reduced Cloud Costs:** Semantic layers reduce cloud analytics expenses by optimizing query performance, minimizing data duplication, and streamlining data pipelines, resulting in up to a 70% reduction in compute costs.
- **Faster Time-to-Insight:** Semantic layers accelerate query speeds by over 10x, enabling faster decision-making across claims, underwriting, and customer service.
- **Enhanced Data Governance:** AtScale's semantic layer ensures consistent metrics and secure access to sensitive data, providing robust governance for regulatory compliance.
- **Operational Cost Savings:** Insurance companies save millions in IT and analytics costs by reducing the effort required for analytics projects. For example, AtScale helped an online insurance marketplace democratize analytics and significantly accelerate reporting cycles.

Choosing the Right Semantic Layer Solution

When selecting a semantic layer solution, insurers should consider the following:

- **Broad Compatibility:** Support for cloud data platforms (e.g., Snowflake, Databricks, BigQuery) and BI tools (e.g., Tableau, Power BI, Excel, Looker) is essential to integrate seamlessly with existing systems.
- **Scalability and Performance:** Look for a solution capable of handling complex queries across massive datasets without compromising speed.
- **Business-Friendly Interface:** Ensure ease of use for non-technical users with intuitive tools and familiar business terms.
- **Robust Security:** Prioritize solutions that integrate with enterprise security frameworks and provide granular control over sensitive insurance data.

Related Resources

- [Practical Guide to a Semantic Layer](#)
- [The Business Impact of Using a Semantic Layer for AI and BI](#)
- [Buyer's Guide to a Semantic Layer](#)

ABOUT ATSCALE

AtScale bridges the gap between data and analytics, enabling smarter, faster decision-making. With its **Universal Semantic Layer**, AtScale empowers insurance companies to build trusted data models that drive consistency and accuracy across analytics tools. Backed by over a decade of innovation, AtScale helps insurers optimize performance, reduce costs, and improve customer satisfaction.

For more information, visit www.atscale.com and follow us on [LinkedIn](#).