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Creating Business Value, Driven by Data Intelligence

CASE STUDY

Transforming Actuarial Assumption Management

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Transforming Actuarial Assumption Management

This case study demonstrates how Data Symphony's streamlined solution transformed actuarial assumption management, enabling insurers to meet growing regulatory demands with enhanced efficiency, governance, and accuracy.

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Overview

Managing actuarial assumptions is crucial for ensuring data integrity, regulatory compliance, and streamlined actuarial workflows. Traditional assumption management processes often involve manual inputs, lack robust version control, and are prone to data inconsistencies, impacting both productivity and decision-making accuracy. To address these challenges, Data Symphony provided a seamless, Excel-integrated assumption management solution for actuarial teams. This case study outlines how the solution enabled efficient assumption management, improved data accuracy, and enhanced collaboration across actuarial functions.

Problem Statement

Managing actuarial assumptions is a complex and critical function, demanding strict oversight to maintain compliance with rigorous regulatory standards such as IFRS and Solvency II. However, many organizations continue to rely on outdated and manual processes that struggle to keep pace with modern actuarial requirements. Key challenges faced by actuarial teams include:

Data Inconsistencies Manual data entry and ad hoc adjustments often introduce errors and inconsistencies, compromising data integrity across actuarial models and impacting the reliability of risk assessments, pricing, and forecasting.

Complex Version Control Actuarial assumptions are frequently updated, yet a lack of robust version control makes it difficult to track changes, revert to previous versions, or ensure audit readiness. Without reliable versioning, ensuring regulatory compliance and maintaining an audit trail becomes cumbersome.

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Problem Statement

Fragmented and Siloed Workflows Assumptions must often be coordinated across multiple departments—central, pricing, valuation, and others. This results in duplicated efforts and data silos, where each team uses isolated processes, limiting visibility and efficiency across the organization.

Limited User Accessibility Many existing assumption management solutions are not user-friendly for actuaries, requiring extensive programming skills or complex software navigation. This lack of accessibility makes it challenging for actuarial teams to engage directly with assumption data, increasing reliance on IT support and slowing down decision-making..

Manual and Time-Intensive Processes Legacy approaches to assumption management are labor-intensive, relying on Excel spreadsheets and other manual systems that are slow, prone to errors, and ill-equipped to handle the evolving demands of regulatory frameworks and high-volume assumption updates.

Inadequate Compliance and Governance Many actuarial teams face difficulty meeting the increasingly complex regulatory requirements due to limited tools for process oversight and data validation. This creates gaps in compliance with regulatory frameworks, making it challenging to support application-based validation and ensure data quality.

Limited Workflow Automation Due to the lack of automated tools, actuaries spend valuable time on repetitive manual tasks, reducing their capacity to focus on high-value analysis and decision-making. Without workflow automation, there is an increased risk of human error and delayed decision-making.

Integration Limitations Legacy systems often lack seamless integration capabilities with other actuarial tools and data sources, creating isolated data silos and hindering the flow of information across departments.

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Solution Approach

Data Symphony implemented a comprehensive, user-focused solution to modernize actuarial assumption management, prioritizing ease of use, integration, and robust version control to support accurate, compliant, and efficient actuarial processes.

Developing a User-Centric Platform To prioritize ease of use, Data Symphony designed a platform with a strong focus on user-centric functionality, leveraging Excel integration to deliver a seamless, familiar interface for actuaries. This allowed users to manage and update actuarial assumptions directly within Excel. By prioritizing intuitive navigation and ease of use, the interface minimized technical complexity and avoided the need for additional software training. This user-centric approach empowered actuaries to spend less time navigating new systems and more time focusing on strategic analysis and insights.

Integration with Excel As an Excel add-in, the solution enabled actuaries to interact with assumptions without disrupting their established workflows. This seamless integration promoted higher productivity by maintaining a consistent working environment and removing the need to learn or adapt to entirely new tools. The Excel-based interface ensured that actuaries could easily update, retrieve, and work with assumption data while continuing to leverage familiar Excel functions and tools—allowing them to adapt quickly and improve overall efficiency.

Version Control To address regulatory and compliance requirements, the platform included comprehensive versioning capabilities creates a unique version per assumption table and tracks the time and the user. Actuaries could quickly revert to previous versions, maintain audit-ready records, and meet strict regulatory standards by adhering to a reliable version-tracking system. This feature enabled accurate record-keeping, improved data transparency, and ensured that assumptions remained consistent with audit and compliance expectations.

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Solution Approach

Database Integration for Centralized Data Management The platform provided robust centralized database integration to support real-time access to assumption data. Actuaries could easily send and retrieve data from a shared database, eliminating inconsistencies and manual entry errors often associated with fragmented data systems. The solution allowed actuaries to work confidently with consistent, reliable data across various actuarial models and business functions, enhancing accuracy and data integrity in actuarial processes.

Flexible Deployment and Simple Access The solution simplified deployment and removed the need for complex local software dependencies, allowing for quick implementation across the organization. Data Symphony further facilitated a smooth rollout by leveraging Active Directory (AD) user groups, granting easy access to targeted users and ensuring efficient system management. This allowed for easy scalability and centralized control, ensuring the platform could be securely managed and accessed by designated user groups.

Collaboration Options To support collaboration across various actuarial functions, the platform included features for assumption cloning and comparison:

Cloning: Actuaries could create and duplicate assumptions for different segments, products, and valuation periods. This feature ensured consistent assumptions across different models, reducing data redundancy and enhancing productivity by allowing users to replicate settings easily.

Comparison Tools: The solution included powerful comparison tools that allowed users to review and analyze differences between assumption tables. Actuaries could assess the impact of changes, identify discrepancies, and validate assumptions to make more informed decisions. This promoted transparency and empowered teams to evaluate assumption changes effectively, fostering improved data-driven decision-making.

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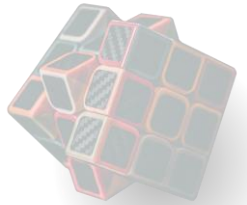
Solution Approach

Workflow Management and Automation With an integrated workflow management capability, the solution automated repetitive tasks and streamlined assumption management processes. Actuaries could focus their analytical skills on high-value activities rather than manual data tasks, resulting in a significant boost in productivity. The automation ensured that updates, approvals, and validations followed a structured workflow, minimizing the risk of errors and supporting efficient assumption development aligned with regulatory requirements.

Regulatory Compliance As regulatory demands increase, Data Symphony's solution provides insurers with the tools needed to meet these evolving requirements efficiently. With automated workflows and consolidated processes, organizations gain better control and transparency over assumption management, making it easier to comply with frameworks such as IFRS, Solvency II etc.

Rapid, Non-Disruptive Implementation As regulatory requirements for actuarial assumptions grow in number and complexity, many insurers are finding it challenging to maintain compliance using manual, ad hoc processes. Data Symphony's solution, however, is designed for rapid deployment. Unlike lengthy and disruptive transformation efforts, this approach can be implemented within weeks and integrates seamlessly with existing programs. This agility allows organizations to transition smoothly without disrupting daily operations.

Operational Efficiency Through automation of manual, time-intensive tasks, the solution enables actuaries to shift their focus toward strategic analysis and decision-making. This not only enhances productivity but also allows actuaries to add more value to the organization, driving improved outcomes and supporting business growth.



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Key Features

Bulk Importing of Assumptions The platform enables actuarial teams to import assumptions in bulk, simplifying the initial onboarding process and promoting swift adoption. By allowing for mass uploads, the solution reduces manual data entry, accelerates setup, and minimizes disruption when transitioning from legacy systems. This functionality supports a smooth migration of existing assumptions, ensuring teams can quickly adapt to the new environment with minimal data loss or inconsistencies.

Comprehensive Export Functions The platform provides a comprehensive export capability that allows assumption tables to be exported to network drives for continued use in legacy models, preserving compatibility with existing actuarial processes. Exports are tracked with version history enabling teams to retain full transparency on who accessed, modified, or exported specific datasets. This feature supports both backward compatibility and streamlined auditing by maintaining a detailed record of all export activities.

Built-in Comparison Tools Designed to facilitate data-driven decision-making, the platform includes built-in comparison tools that allow actuaries to examine multiple assumption sets. This enables users to detect outliers, identify significant variances, and evaluate the impact of changes on actuarial models. By empowering users with real-time comparisons, the tool enhances data accuracy and model reliability, providing greater insights into assumption adjustments and ensuring assumptions align with actuarial best practices.

Audit-Ready Tracking and Reporting Each assumption update, export, and modification is meticulously tracked, creating a comprehensive audit trail for all actions performed within the platform. This feature supports audit readiness by ensuring full traceability of changes, making it easier for organizations to demonstrate compliance during internal or external audits.

Key Features

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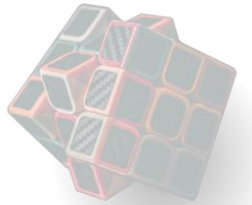
User Access and Role-Based Permissions With role-based access controls, the platform allows organizations to manage permissions efficiently, restricting assumption access to authorized users only. By tailoring access levels to each user's role, the solution ensures data security and compliance while empowering users to perform only those actions for which they are authorized. This feature bolsters data confidentiality and safeguards sensitive actuarial information, reinforcing regulatory compliance.

Enhanced Data Integrity The solution prioritizes data integrity through centralized storage and comprehensive version tracking. By consolidating assumptions into a single, controlled repository, the platform minimizes inconsistencies and promotes data uniformity across actuarial models. Each version update is time-stamped and documented, supporting rigorous audit compliance and ensuring all assumption changes are transparent and retrievable. This integrity framework is essential for accurate reporting and aligns with regulatory standards, helping organizations meet IFRS and Solvency II regulatory requirements.



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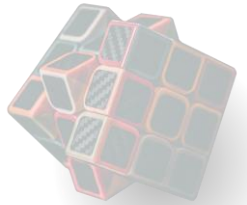
Outcomes

Improved Efficiency and Data Accuracy The platform streamlined workflow significantly reduced the need for manual data entry, which was a primary source of errors and inconsistencies in actuarial models. By centralizing data management and reducing reliance on fragmented processes, actuaries were able to access consistent, up-to-date data with ease. This improved data integrity led to a noticeable increase in model accuracy, ensuring that actuarial predictions and analyses were based on reliable and error-free data, which in turn enhanced the quality of decision-making across the organization

Enhanced Regulatory Compliance With robust version control and comprehensive change tracking, the platform provided full auditability for every assumption update. This feature enabled organizations to comply seamlessly with regulatory standards like IFRS and Solvency II, which require meticulous tracking and reporting of assumption changes. The platform's automated audit trail ensured that compliance was achieved without additional manual documentation, simplifying regulatory reporting and making the entire process of compliance more effortless and reliable.

Increased Productivity Across Functions By enabling assumption cloning and comparison tools, the platform fostered collaboration among pricing, central, and valuation functions. Actuarial teams could easily replicate assumptions across different models and valuation periods, minimizing redundant work and enabling faster, unified decision-making. This cross-functional collaboration allowed teams to coordinate assumption management in real-time, resulting in greater productivity, accelerated project timelines, and more cohesive insights across actuarial functions.



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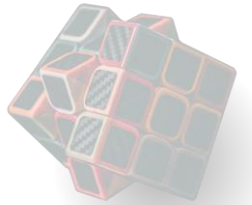
Outcomes

Seamless Data Management The platform's centralized database integration created a single source of truth for all actuarial assumption data, eliminating the risk of data silos and fragmented information. By maintaining a consolidated data repository, actuaries were able to access consistent, validated data across all actuarial processes, reducing the likelihood of discrepancies and errors. This centralized approach streamlined workflows across departments, improving interdepartmental coordination and ensuring that all teams operated with the same reliable data.

Reduced Technical Complexity The solution's seamless Excel integration and server-side deployment eliminated the need for complex software dependencies, making the platform accessible to users with minimal technical expertise. Actuaries were able to work within the familiar Excel environment, significantly reducing the learning curve and avoiding the need for extensive training. By making assumption management simpler and more accessible, the platform increased adoption rates across the organization and allowed non-technical users to confidently engage with the data.

Scalability and Flexibility for Future Growth Designed with scalability in mind, the solution accommodated future expansions in actuarial modeling and regulatory changes. Its flexible architecture allowed the solution to support evolving business needs, including the addition of new functionalities, integration with emerging technologies, and adaptation to updated regulatory standards. This future-ready design ensured that the platform remained relevant and valuable to the organization as it grew, supporting long-term growth and adaptability without the need for costly overhauls.



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