

CASE STUDY

Boosting Productivity and Accuracy: Power Query Cuts Model Point Preparation Time by 70%

CLIENT

The South African actuarial modelling and reporting team for a global reinsurer.

CHALLENGE

- The actuarial and reporting teams needed to transform the company's policy administration data into the format required by the model.
- Extracts from each client were received in different formats and required a bespoke transformation process.
- Transformations were programmed using legacy tools. The process had several manual steps, was slow to run and was very inflexible, creating a high level of operational risk.
- Significant licence costs associated with the legacy tools that were being used.

APPROACH

Discovery

- MBE conducted discovery workshops with the client's SMEs based on the results from [MBE's Actuarial Performance Management \(APM™\)](#) Assessment.

Analysis

- Performed root cause analysis on the data management processes.
- Analysed the end-to-end model point creation process including manual steps, legacy data tool transformation logic and data adjustments/corrections.
- Assessed the infrastructure and tools available in the organisation including SQL Server and Excel.

Recommend

- Recommended, developed and successfully implemented, using Excel Power Query, a replacement of the model point creation process for two portfolios.

RESULTS

- Achieved a 70% reduction in data transformation run time compared to the legacy tools (1 million+ records processed in 8 minutes).
- Removed the manual steps, with Excel Power Query directly linking to the client's SQL Server data warehouse for sourcing the data.
- Processing of the largest portfolio (1m+ records) without the need to break it up into smaller files.
- Client planning to migrate all portfolios to the new solution.

AT A GLANCE

Challenges

- Data format not meeting model requirements.
- Data supplied in multiple formats from each client.
- Current process was slow, involved too many steps and difficult to audit with a high level of operational risk.
- Significant extra costs.

Results

- 70% reduction in data processing and transformation time.
- Multiple manual steps removed with Excel Power Query.
- Data transformation steps are now transparent and do not require specialised coding to maintain.
- One million records processed for a single operation in 8 minutes.
- Significant reduction in annual licence costs.



Through MBE's innovative use of Excel Power Query, we have achieved a dynamic solution to replace our legacy tools. The developed solution is well structured, transparent to use, and easy to maintain. It's been a pleasure working with the MBE team.



Actuarial Manager