



City of London Private Bank creates new Loan to Value Production system with Help of Adatis

Adatis provides a complex mathematical model within an ETL process for the client, meeting technical, performance and timeframe delivery targets along the way.

Situation.

This private bank were seeking a new accurate and efficient way to flexibly calculate their key loan to value metrics which is KPI of the business. Loan to value is a key measure for loan security, risk weighted assets and capital requirements and influences the European banking society reporting and compliance.

Adatis needed to implement a mathematical model within their ETL process to help predict the risk associated with their lending activities. With the risk of loans falling into negative equity being a key concern for lenders, the ability to automate part of the risk assessment calculation allows those involved to identify risky loans faster, and plan to mitigate the issues presented quickly.

Approach.

Adatis were provided with a technical specification, requiring the use of SQL Machine Learning Services to implement the R-based model within their data processes, alongside a technical paper on the model required and a proof-of-concept built in Excel. Making use of in-house knowledge on the practical implementation of complex mathematical models, Adatis were able to successfully to meet the performance and technical specification required of the model.

The first step in the work was to complete analysis of the provided material to gain a deeper understanding of the specific mechanisms used in the predictions. This required further researching the methods used in the technical paper and building proof-of-concept models to test possible approaches in the implementation. Once the final approach was agreed, Adatis consultants presented their findings back to key business stakeholders to confirm the method to be used.



The development of the model required the use of both linear algebra and mathematical optimisation techniques to allow the model to make the required predictions. These were developed through a series of scripts in R, and were inserted into a T-SQL stored procedure via SQL Machine Learning Services. This allowed the client to deploy the solution onto their system quickly, providing more time for UAT.

Outcome.

Once client testing had concluded, they provided some examples from their business that presented challenges for the model's predictions. Subsequently, Adatis conducted further analysis with said examples, identifying modifications to the model to handle these examples. The fixes associated with this work were then completed to the timeframe requested by the bank.

In conclusion, Adatis provided a complex mathematical model within an ETL process for the client, meeting technical, performance and timeframe delivery targets along the way.

Adatis offer professional services specialising in data analytics, from data management strategy and consultancy through to world class delivery and managed services.

With offices in London, Farnham and Sofia they have been delivering innovative and successful solutions for clients since 2006.



Data Science



Data as a Service



Modern Data Warehouse



Data Architecture



Data Analytics



Data Strategy

We love helping people unlock the power and value of their data.

If you are interested in finding out more please contact us on **+44 (0)1252 267 777** or via email at **enquiries@adatis.co.uk**. You can also check out our website at **www.adatis.co.uk** or come and see us at numerous global conferences and speaking events.