QUALCO

USE CASE

Elevating Your Loan Origination Strategy

Traditional loan origination methods, often characterised by empirical models built on data that may be of compromised quality, can be significantly enhanced by integrating artificial intelligence. AI models have the potential to rationalise loan terms, improve approval processes and mitigate risks.

Case Overview

A loan servicer sought the best loan origination strategy for their student loan portfolio. The primary objective was formulating the most effective strategy, considering default probabilities, expected loan amounts, and the portfolio's overall health.

Our Approach

We leveraged the machine learning capabilities of QUALCO Data-Driven Decision Engine to conduct a comprehensive analysis of loan default probabilities and calibrate the client's business-as-usual strategy. This analysis enabled us to propose alternative terms for loans deemed credible but likely to default and identify opportunities among loans initially rejected. Our methodology was based on the combination of ML models trained to predict the probability of default and the expected repayment amount on loans for which the entire transactional history was available.

QUALCO D3E IN ACTION

Step 1 Model Development

QUALCO Data – Driven Decision Engine built regression and classification models using historical data on approved loans to predict default probabilities and expected recovery amounts. Employing advanced data analysis techniques, the model identified predictive factors, including:

- Advance Amount
- Commitment Fee
- Loan Duration
- Loan Amount
- Original Note Amount
- Rate Score
- Account Interest Rate for Purchases

Step 2 Customer Segmentation

The platform's trained models were used to segment loans based on their likelihood of default and the expected recovery rates.

Step 3 Strategy Selection

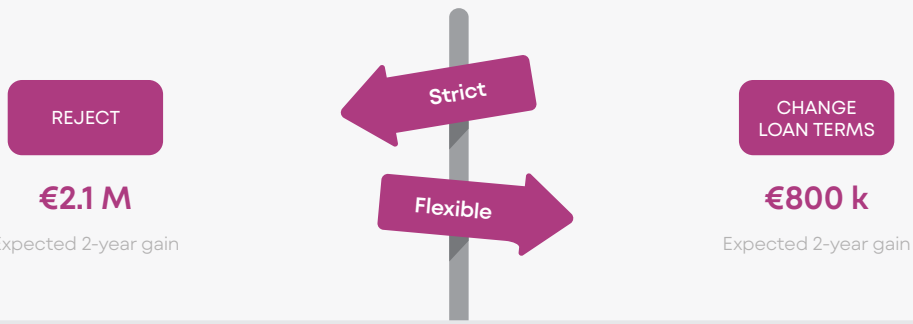
Based on model predictions, we identified profitable opportunities in previously declined loans and proposed two distinct loan origination strategies for approved loans with a high-risk profile:

- **Strict Strategy**

  Reject loans with a probability of default greater than **58%** to safeguard portfolio health, resulting in a **€2.1M** gain over two years.

- **Flexible Strategy**

  Propose alternative terms to loans with a **58%+** probability of default to accommodate applicants' repayment abilities, leading to an **€800k** gain over two years.



Alternative strategies proposed for approved loans with a high-risk profile

RESULTS

Increased Recovery Rates

Ensured a **10% uplift** in overall returns through tailored loan origination strategies, enhancing profitability.

Enhanced Portfolio Health

Optimised client's **loan origination strategy** without disrupting established practices by post-processing credit decisions, utilising the model's predictions.

Improved Risk Management

Mitigated risks and minimised losses by identifying opportunities in declined loans and considering alternative loan terms.

About
QUALCO Data-Driven Decisions Engine

QUALCO Data-Driven Decision Engine is an integrated decision-making platform that automates every stage of the credit portfolio and collections analytics workflow. It empowers:

- → **Data Organisation** to keep track of one's portfolio's changes easily
- → **Data Processing** to transform and sequence data for analytical insights
- → **Machine Learning capabilities** to understand customer behaviours and segments
- → **Tailored Treatments** to customise actions for various customer groups, enhancing performance
- → **Strategic Insights** to shape treatment strategies and estimate their impact on profitability
- → **Regulatory Compliance,** by generating compliance reports based on analysis results

Designed for any business that manages credit, QUALCO Data-Driven Decision Engine equips financial institutions and servicers with the tools to transform raw data into actionable insights. By leveraging advanced analytics and machine learning algorithms, organisations can unlock untapped potential, drive operational efficiency, and deliver exceptional customer value.

www.qualco.eu