QUALCO
Data-Driven Decisions Engine

Product Profile

OVERVIEW

FINALLY,
YOUR DATA MAKES SENSE!

QUALCO Data-Driven Decisions Engine is an all-in-one decision-making platform for the credit management industry. Designed to cover the needs of servicers, banks, utilities and any other organisation managing substantial portfolios of receivables, loans, or other types of debt, QUALCO Data-Driven Decisions Engine is the hub where all your analytics come together.

QUALCO Data-Driven Decisions Engine makes it easy to evolve your data infrastructure and analytics capabilities along with your business needs.

It helps you:

› **Organise your data** and maintain a bird's eye view of your portfolio's evolution

› **Ingest, transform and persist data** to enable effortless analytical assessment in compliance with relevant policies

› **Apply explainable machine learning algorithms** to identify and predict behaviour and segment customers by expected responses to available treatments

› **Drive tailored operational treatments** to maximise performance through a combination of machine learning and automated empirical decision-making

› **Shape your portfolio treatment strategy** and translate strategic initiatives into estimates of bottom-line impact

› **Gain clarity into your operations** and optimise day-to-day treatment **decisions**

› **Streamline your underwriting processes** and reduce the time and cost related to underwriting loans

› **Make data-driven investment decisions** based on quantitative analyses of your own operation's competitive advantages

› **Create comprehensive frameworks** ensuring compliance with regulatory reporting requirements

QUALCO Data-Driven Decisions Engine provides you with a seamlessly integrated, completely open environment for collecting, verifying and exploiting your data.

QUALCO Data-Driven Decisions Engine allows you to develop your analytics capabilities by building on earlier results and making experimentation easy, low-priced and risk-free.

It offers:

Data description, onboarding and quality control with minimal configuration.

Incremental setup of multiple data sources, transformations and outbound data feeds, with automated dependency resolution and data consistency guarantees.

Automated predictive model generation, using machine learning technology to minimise human effort.

Open data model for easy integration into your existing or future data-driven initiatives.

It emphasises:

Letting machines do what they do best, through common-sense automated orchestration of day-to-day tasks and sophisticated machine learning solutions for predictive modelling.

Empowering business stakeholders through model explainability and an intuitive, configurable decision engine.

Promoting clarity by eliminating black-box processes and models, ensuring the results of all analyses can be traced back to the source, and providing the data to back them up.

Eliminating report maintenance effort and incrementally extending your analytics capabilities by reusing past work in new analyses.

KEY FEATURES & DIFFERENTIATORS

QUALCO Data-Driven Decisions Engine's fresh, holistic approach to analytics provides data, tools, and techniques to promote a common language for analytics throughout your organisation, and helps to identify, monitor and verify your performance optimisation initiatives. It consists of four main capabilities: **Data warehousing, Descriptive analytics and reporting, Predictive analytics and Prescriptive analytics.**

DATA TRANSFORMATION

KEY FEATURES

Data model configuration, data description and master data management

Data ingestion from multiple sources

KEY DIFFERENTIATORS

QUALCO Data-Driven Decisions Engine offers incremental, on-the-fly configuration of the data model through automatically maintained end-to-end metadata, ensuring that data provenance is evident at every stage of every analysis.

Once the data model has been set up, data ingestion is automatically configured and orchestrated from the metadata. Loaded data can be kept in source format ("schema-on-read") for minimal configuration effort, or transformed to fit your preferred data model.

DESCRIPTIVE ANALYTICS & REPORTING

KEY FEATURES

Data transformation

Data feeds

KEY DIFFERENTIATORS

QUALCO Data-Driven Decisions Engine data transformations are fully user-configurable, using multiple alternative abstractions to suit the needs of different types of users. The system resolves dependencies and executes them automatically after data ingestion, with access to the full data model.

The data model is fully accessible through configurable data feeds with guaranteed data consistency. There is no need to build separate "data marts": Any data subset can be configured as a relational, multidimensional, plain text file or big data feed, and accessed by online and offline querying capabilities.

KEY FEATURES & DIFFERENTIATORS

PREDICTIVE ANALYTICS

KEY FEATURES

- Modelling dataset preparation

- Predictive model generation

KEY DIFFERENTIATORS

Rather than requiring the user to hand-craft the modelling dataset, **QUALCO Data-Driven Decisions Engine** provides configurable general patterns to automatically engineer predictors from every customer's accounts and their evolution over time. Big Data processing is used to apply the patterns with no manual effort.

It automatically builds optimal models for both classification and regression tasks, leveraging Big Data processing to eliminate manual trial and error in the selection of segments and predictors. A commitment to "white box" models ensures the results are comprehensible and easy to trace back to the original data.

PRESCRIPTIVE ANALYTICS

KEY FEATURES

- Analytics operationalisation and decision automation

KEY DIFFERENTIATORS

QUALCO Data-Driven Decisions Engine provides configurable data feed options to communicate analytics outcomes to human or machine consumers. Integration with other QUALCO solutions is preconfigured.

Its predictive models come with built-in deployment capabilities, and its full-featured, standards-based decision engine can be used to blend data-driven and empirical approaches to provide actionable decision making.

The system supports A-B testing of the resulting models and treatments, both during evaluation and in production use; quality, adoption and effectiveness can be monitored through its descriptive analytics framework.

USE CASES
FOR THE CREDIT MANAGEMENT INDUSTRY

QUALCO Data-Driven Decisions Engine is a robust decision-making tool, applicable to every analytics-driven or analytics-supported function in your organisation.

Its facilities apply to a wide range of problems in business sectors, including financial services, utilities, and insurance. Below you may find indicative use cases from the credit management sector, QUALCO's traditional area of expertise.

USE CASE PORTFOLIO UNDERWRITING

AUTOMATE DATA INGESTION AND DUE DILIGENCE

With QUALCO Data-Driven Decisions Engine you can eliminate the time and effort spent just getting access to the data, by configuring its schema to match any portfolio data model as delivered. You can also build and reuse collections of data quality and business logic checks, at both granular and aggregate levels. Optionally build and reuse a library of transformations to convert any portfolio's data into your preferred data model, to maximise the reuse of all the analytics assets you build within or outside the software.

SEGMENT, STRATIFY AND AGGREGATE DATA

Use QUALCO Data-Driven Decisions Engine configurable multidimensional data repositories to produce standard reports or aggregate data sets that feed directly into your existing per-segment valuation models and business plans. Easily monitor the performance of your models versus actual outcomes, and extract data to update your models' assumptions and parameters.

PRODUCE DATA-DRIVEN VALUATION MODELS

With QUALCO Data-Driven Decisions Engine's documented best-practice approach you can build granular, machine learning-based valuation models that predict a portfolio's recoveries without making assumptions about the behaviour of specific segments. Build a library of such models on top of your preferred data models and reuse them on new portfolios.

USE CASE RECOVERIES STRATEGY AND PROCESS OPTIMISATION

ESTABLISH GROUND TRUTH

Exploit QUALCO Data-Driven Decisions Engine's data repositories to access reliable portfolio data, updated daily and reflecting actual operations. Use the full, granular history of the portfolio's evolution, to identify what works and what doesn't. Reach a wide consensus on the above so that the entire organisation remains focused on its goals and on the best ways to reach them.

IDENTIFY INNOVATIVE STRATEGIES

Leverage the predictive modelling capabilities offered by QUALCO Data-Driven Decisions Engine to sort through the endless array of choices involved in developing your portfolio treatment strategy. From segmentation, to choosing Collection Agencies and communication channels, to repayment plan options, it will identify key drivers of customer behaviour, highlighting problems and opportunities that can inform your strategy, as well as delivering actionable predictions to help with its implementation.

USE CASES
FOR THE CREDIT MANAGEMENT INDUSTRY

USE CASE PORTFOLIO OPERATIONS

PROVIDE CLARITY AND TRANSPARENCY

Build any number of predictive models – from the essentials, like probability of default or expected recoveries, to more specialised ones, like the best time to call, the probability to accept a payment plan, most suitable solution and more.

Use the models to identify key characteristics, as well as extract granular predictions, that foresee a portfolio's recoveries without making assumptions about the behaviour of specific segments. Build a library of such models on top of your preferred data models and apply them to new portfolios.

Feed the predictions automatically to your operations systems to automate the corresponding actions within your workflows and monitor the effectiveness of such workflow changes at every stage – from A/B tests to full rollout – and establish an ongoing optimisation loop under your full control.

SHARE INFORMATION WHILE MAINTAINING CONTROL

Make use of the metadata and access control configuration to share reports or results of analyses securely across the organisation or even outside it – with investors, Collection Agencies and other business partners. Establish a common language with all stakeholders and achieve consensus on treatment effectiveness.

USE CASE INFORMATION MANAGEMENT, RISK MONITORING & REPORTING

ENRICH THE PORTFOLIO DATA MODEL

Use QUALCO Data-Driven Decisions Engine's configurable transformations engine to build, verify, sequence, maintain and reuse calculations, eliminating "data silos" and extensive data model impact analysis.

ENSURE CONSISTENCY

Make sure reports agree with each other; keep track of the provenance, definition, and evolution of any data item throughout your data processing chain.

MAINTAIN AN OPEN DATA ECOSYSTEM

Provide self-service capabilities as well as predefined reporting deliverables through any data feed technology or reporting front-end of your choice. Deal easily with ad hoc requests through reuse of any existing analyses and automate periodic data exchanges with regulators, credit bureaus, and other data consumers.

USE CASES
FOR THE CREDIT MANAGEMENT INDUSTRY

USE CASE

CONTACTABILITY OPTIMISATION FOR STRATEGIC COLLECTIONS

MAXIMISE CONTACT RATES

Leverage QUALCO Data-Driven Decisions Engine to identify and prioritise debtors or third parties with the highest likelihood of responding to phone contact attempts. Reduce efforts on low-probability contacts and focus on achieving a 3.5-fold increase in successful connections through targeted outreach.

STREAMLINE RESOURCE ALLOCATION

Reallocate resources effectively by concentrating on customers who are most likely to respond but have yet to be contacted. Reduce unsuccessful agent efforts by 35%, ensuring resources are used effectively to boost overall productivity.

CUT COMMUNICATION COSTS

Implement targeted outreach strategies that significantly lower communication expenses, making your operations more cost-effective and resource efficient.

USE CASE

BEST COMMUNICATION CHANNEL IDENTIFICATION

IMPROVE COMMUNICATION OUTCOMES

Utilise predictive modeling to forecast successful contact outcomes, such as payments, commitments to pay, or debt restructuring agreements, across different communication channels. Experience an 18% improvement in email contacts, a 68% increase in phone contacts, and a 50% boost in SMS contacts.

ENHANCE RESOURCE ALLOCATION

Customise communication strategies for each debtor, identifying 45% of customers as uncontactable due to low response probability and reallocating efforts to more successful channels. Address inefficiencies by identifying that 39% of debtors were initially contacted through less effective channels, and improve outcomes by selecting more suitable alternatives.

ACHIEVE COST SAVINGS

Reduce communication costs and improve ROI by deploying targeted communication strategies and optimising channel usage.

USE CASES
FOR THE CREDIT MANAGEMENT INDUSTRY

USE CASE

LOAN ORIGINATION STRATEGY ELEVATION

INCREASE RECOVERY RATES

Achieve a 10% uplift in overall returns by implementing tailored loan origination strategies that enhance profitability.

ENHANCE PORTFOLIO HEALTH

Identify opportunities among initially rejected loans and propose alternative terms for credible borrowers at risk of default. Refine credit decisions using model predictions without disrupting existing practices, ensuring a healthier loan portfolio.

IMPROVE RISK MANAGEMENT

Mitigate risks and minimise losses by identifying potential opportunities in declined loans and adjusting terms to enhance recovery.

USE CASE

SETTLEMENT INSTALMENT DEFAULT PROBABILITY FORECASTING

IMPROVE COLLECTIONS RESULTS

Accurately estimate the probability of missed settlement instalments by analysing parameters such as unpaid settlement amounts and the time since the last missed payment. Achieve a 26% increase in positive outcomes, enhancing overall payment recovery.

INCREASE CASH UPLIFTS

Boost cash collections by up to 7% through tailored treatment strategies that mitigate default risks and secure timely payments.

ENHANCE RISK MANAGEMENT

Strengthen financial stability and portfolio health by proactively identifying and addressing potential payment disruptions.