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Case Study

Finnova Analytical Framework

prospero

Finnova is a leading provider of banking software in the Swiss financial center. Finnova supports banks and outsourcing providers with efficient, innovative and regulatory compliant IT solutions to realize growth in banking in these days: «Smarter Banking» - that‘s what Finnova stands for. The powerful and reliable Finnova banking platform is used by more than 100 banks.

Starting position and challenge

Complex regulatory requirements pose multiple challenges to banks around the world. The analysis of complex behavioral patterns, non-linear contexts and links, for example of client relationships and transactions, requires significant investments in hardware, software, infrastructure and human capital. This is the regulatory burden. At the same time, rigid, filter-based rules that do not meet current requirements are still being applied today. This results in high error rates, decreasing accuracy and wrong decisions. The regulatory burden can thereby be offset with low additional investments.

Reduction of false alerts

«Thanks to the FAF solution designed by the Prospero Engine, our customers were able to reduce false alerts by up to 98%.»

Peter Wolf, BA Data Analytics & Compliance,
finnova AG Bankware

Solution

The solution is the Finnova Analytical Framework (FAF). It is embedded in the Finnova banking software via the Open Platform and responds to all requirements from all suites and modules. The core of the solution is Prosperos licensed software platform for Predictive Analytics. It can be used to map the entire range of applications of machine intelligence for optimizing the business processes of a bank in a uniform platform. Examples are anti-money laundering, fraud prevention, risk management, potential-oriented sales management, robo-advisory, etc.. Prospero Solutions are integrated into the Finnova Banking Suite.

Functionality

The most important analytical approaches of the Analytical Engine are «supervised learning», «unsupervised learning» and rules based on expert knowledge. «Supervised learning» uses a target variable on which the model is built. A representative sample is drawn for this purpose and separated into train and test datasets. Then the optimized model is applied to the universe of data in the productive environment. Within the «unsupervised learning» the entire data is taken and used in the analysis and modeling process in an unbiased way. In this way unknown and suspicious behavioral patterns can be revealed. The combined use of both methods enables to obtain high-quality accurate and stable models. Expert knowledge is no longer used in isolation but rather in combination with the other two methods. Profiling serves as a preliminary processing stage based on static and dynamic customer data. Aggregation of data takes place from the three areas of expertise. During model optimization the unique optimization algorithms of Prospero are applied. The feedback loop from the aggregation into the profiling and into the supervised and unsupervised learning is particularly important; this guarantees constant self-improvement and evolutionary learning of the system.

Applications

The models are used, for example, in fraud detection and fraud prevention. Here, transaction analysis is used in combination with name checking and link analysis. The link analysis is based on two principles. With the star and vector principles any complex structures can be analyzed. The result of these analyses delivers precise lists of suspicious transactions and involved parties. The results from the name checking, profiling and link analysis are summarized in the AlertViewer.

The link analysis identifies and visualizes suspicious structures from client networks and transactions. Examples include indirect connections between persons, companies and transactions, hidden shareholdings in offshore companies and thereby also suspicion of possible tax evasion structures. The link analysis identifies and visualizes suspicious structures from customer networks and transactions.

These insights save time, resources, costs and reduce the probability of operational risks and losses. From a business process perspective, it becomes clear that the FAF uniformly provides the entire Finnova banking software with a single infrastructure, predefined processes and data. All results can be displayed in the compliance and profitability cockpit or exported to any third-party system.

With the open architecture Finnova can provide any system desired by the customer with high-quality data for precise identification and quantification of risks and opportunities. The next example is an application from robo-advisory, Predictive Analytics and the generation of trading signals. Based on the analysis of financial market data, corporate actions and other unstructured data, forecasts are made about the development of the financial markets or individual instruments.

This model delivers buy and sell signals together with the most important modeling quality parameters, that can be used by any portfolio management, portfolio optimization or robo-advisory system. The hub function enables processing of external data. The findings and recommendations are sent back into the external systems. This means that models used outside the Finnova banking software can be validated and optimized with the FAF.

FAF enables maximum automation of model creation, validation, optimization, calibration and stress testing. There is a process of constant self-improvement through evolutionary learning. This ensures highly precise detection and quantification of risks and opportunities.

The engine

The heart of FAF is the Prospero Analytical Engine, which validates, optimizes and calibrates models automated and continuously in the background. Regardless of whether the models are for fraud detection, transaction analysis, link analysis, robo-advisory or Analytical CRM. The engine ensures maximum precision and stability of the modeling process. Depending on the task, data from different sources is loaded for processing, checked for completeness and distortion, transformed, supplemented and enriched. In a complex and unique optimization process, millions of combinations are calculated and the relevant factors are continuously determined with their weightings. All operations run in an automated process so that the intervention by the experts is reduced to a minimum. To be able to handle all analytical tasks of a bank, the model creation and the model application are carried out in parallel in an unlimited scalable process.

«Prospero has been focusing on the development of AI solutions for 20 years. We have evaluated the market and it has been shown that Prospero with its approach of a new generation of Predictive Analytics achieves the best model qualities in a highly automated process.»

Nikolai Tsenov, Product Manager Analytics and Compliance,
finnova AG Bankware

Its improved quality can be immediately translated into loss reduction and profit optimization. By using FAF, challenges are turned into opportunities, costs are reduced and missing know-how is compensated by automated processes. A continuous self-improvement takes place, which can be checked and illustrated on the basis of the quality parameters of the modeling that are constantly delivered. A before/after comparison confirms the improved classification quality and segmentation precision of the optimized model.

Prospero has been providing predictive analytics-based business solutions since the year 2000. More than 60 clients in 12 countries across the financial, life science, manufacturing, commercial and energy industries streamline their business with Prospero solutions.

SaaS (Software as a Service)

The Prospero Solutions are also offered as Software as a Service (SaaS) in the Application Service Providing (ASP) cooperation mode. In a private cloud, the customer accesses to the Prospero Solutions via a secure connection. The full service package includes IT operation, hosting, software provision including maintenance and updates as well as the provision of services (e.g. analytical services, training, quality assurance, etc.) according to the customer‘s individual requirements.