

PREDICTING FRAUDULENT GRANTS FOR THE WORLD'S LARGEST NGO

CASE STUDY

A CASE STUDY ON DATA SCIENCE & ADVANCED ANALYTICS



The world's largest financier of AIDS, TB, and malaria prevention, treatment, and care programs wanted to develop a systematic risk-based approach to proactively anticipate and identify the risk of new and already issued grants using data and analytics.

The main objective was to move from the current reactive mode of investigations from the internal investigation team and whistle-blowers to a proactive analysis.

ABOUT CUSTOMER



The client is the largest non-profit organization with a movement to defeat HIV, TB, and malaria and ensure a healthier, safer, more equitable future for all.

The client raises and invests US\$4 billion a year to fight the deadliest infectious diseases, challenge the injustice which fuels them, and strengthens health systems in more than 100 of the hardest hit countries.

PROBLEM STATEMENT

Our client sees a wide variety of fraud, and suspicious grants are always finding new loopholes to bypass the specific measures it put in place to combat such fraudulent instances. The client was having a hard time finding fraud patterns and preventing them.

Tackling these different kinds of fraud was a never-ending game of cat-and-mouse. Our client used to create rules or machine learning models for each specific type of fraud. But this was problematic on different levels.

- ◆ The current system only allows to identify and block a grant after the fraud is committed and detected. By then, the money is already disbursed.
- ◆ Fraudsters could quickly spot how our client detected fraud and move on and find a new loophole to exploit.
- ◆ Data issues because of data silos and data overload lead to an incomplete view of risk exposures, preventing the visibility of patterns and behaviors needed for prediction.
- ◆ False positives required costly manual investigations, negatively impacting ROI through loss payouts and damaging the public image.

To overcome these challenges, the client wanted a data transformation company that builds, operates & manages massive data sources with real-time advanced data analytics capabilities to predict anomalies in grant data at any time to make informed decisions.

BUSINESS OBJECTIVES



A faster and smarter way to detect fraudulent requests



Detecting potential fraudulent patterns in real-time



Monitoring and oversight system for fraudulent alerts with interactive visualizations



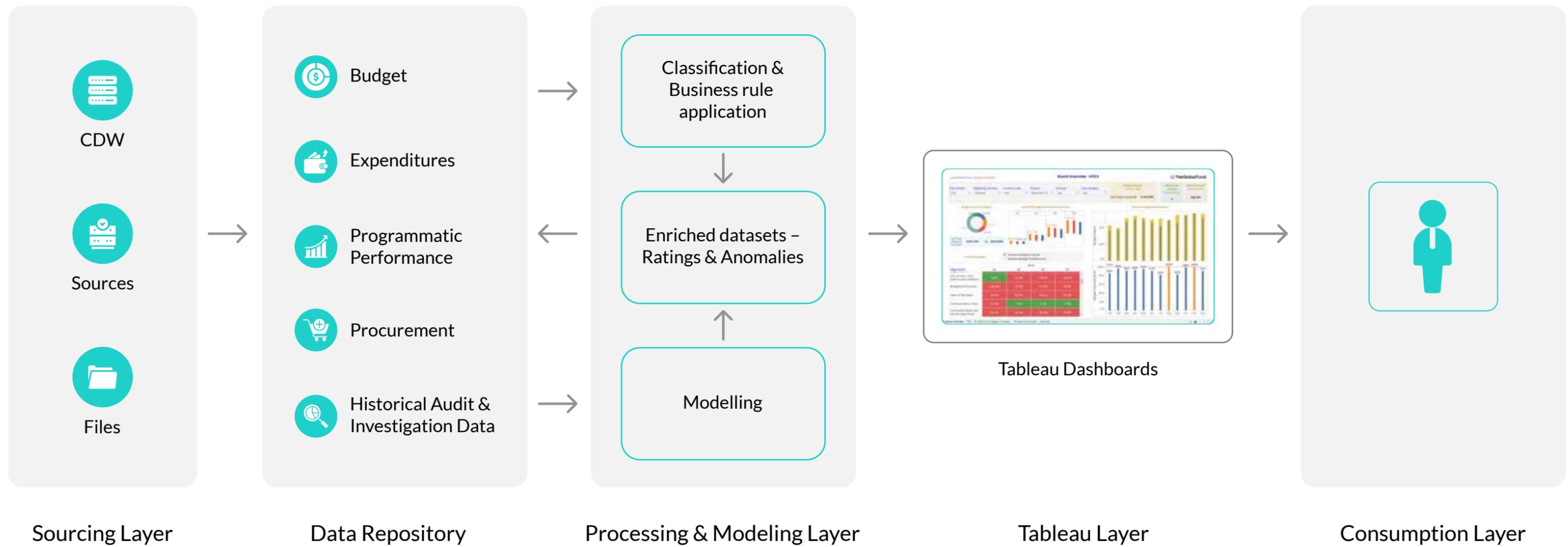
Descriptive and diagnostic analytics for quick decision making

OUR APPROACH



The client hired Zuci Systems to help them develop a systematic risk-based approach to proactively anticipate and identify the risk of new and already issued grants using data science and analytics.

CONCEPTUAL SOLUTION ARCHITECTURE



A background image showing two people, a man and a woman, sitting at a table in what appears to be a cafe or office setting. They are both wearing face masks. The man is on the left, and the woman is on the right. They are looking at a laptop on the table. The image is overlaid with a blue geometric pattern of dots and lines.

OUR APPROACH

Our team understood the requirements, analyzed over 100 million transactions from over 200 countries across all types of grants, and developed a hypothesis for predicting fraudulent requests and grants. The hypothesis was tested with the existing grant data, applying weightage for risk indicators, rule-based tests, advanced analytics, and statistical techniques (isolation forest and classification models) to identify proactive investigation opportunities.

After continuous improvements for two months, Zuci deployed the final prescriptive data model to identify fraudulent transactions with an accuracy of over 87%.

The final model allowed our client to respond quickly and accurately to both known fraudulent transactions and unknown ones, which resulted in more efficient investigations while reducing costs by almost 30%.



BUSINESS BENEFITS

87%

Reduction in fraudulent grants

50%

Faster data collection and enrichment

100%

Security & Compliance

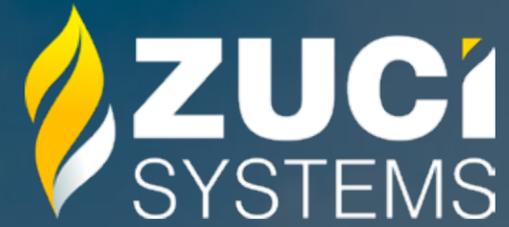
30%

Time and money saved from costly manual investigations

Real-time visibility and
fraudulent alerts

TECH STACK





ACHIEVE ABOVE 90% ACCURACY IN FRAUD PREDICTIONS AND BLOCK THEM BEFORE IT'S TOO LATE.

DROP US YOUR EMAIL, AND OUR EXPERTS WILL GET IN TOUCH.

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www.zucisystems.com



Chicago, USA
Brussels, Belgium
Chennai, India



US: +1 (331) 903 5007
Belgium: +32 4774 11912
India: +91 (44) 4952 5020



sales@zucisystems.com