



HALO

# TRANSFORMED RISK ASSESSMENT OF LOAN PORTFOLIOS FOR A LEADING ASIAN BANK.

CASE STUDY



## A CASE STUDY ON AI-DRIVEN CREDIT UNDERWRITING SOLUTION



A large Asian bank with a market capitalization of US\$1.8 billion, offering a wide range of banking services, deposits, loans, saving/current accounts, wanted to improve the underwriting process and approvals rates for Overdraft (OD) and Cash Credit (CC) loan products.



## PROBLEM STATEMENT

Our client is one of Asia's most prominent banks with total assets of over US\$10 billion. The bank caters to a broad customer demographic group with different credit products - from overdraft loans to MSME and corporate loan products.

With a vast customer base, the bank faced tremendous pressure to keep track of all overdraft accounts and cash credit products on an account-to-account basis.

Our client manually monitored credit limits for Overdraft (OD) accounts to understand the borrower usage to increase or decrease the credit limits based on customers' credit history. Also, the bank was manually identifying accounts that were not using overdraft limits and allocated them to potential creditworthy borrowers who were exceeding the credit limits.

But the manual allocation, reviewing, and monitoring of accounts was tiresome, error-prone, and held back the bank's overall loan revenue.

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## PROBLEM STATEMENT

Similarly, the bank faced difficulties in validating companies' credit usage for cash credit products to increase or decrease the credit limits and scrutinize any personal spending from the credit provided.

Lastly, the bank's risk assessment was solely based on the hands of a branch manager, who evaluates the customer risk appetite based on the income statement, balance sheet, and other collaterals provided. This led to higher default risk.

To overcome these challenges and reduce OD/CC delinquency percentage, boost approval rates and maximize loan-loss adjusted net interest income, the client wanted to transform their current portfolio risk assessment system with a innovative and scalable automation solution.



## BUSINESS GOALS



Predict credit limits based on unbiased risk assessment



Real-time tracking of credit usage limit and spending



Streamline and standardize all manual processes



Role-based access to all stakeholders



Anytime-anywhere information access

## SOLUTION



Our team of data scientists initiated the project by understanding the current end-to-end credit assessment and approval process in providing a credit limit for Overdraft and Cash Credit products. This helped our team to identify various business challenges and to define the success metric beforehand.

Post discovery phase, our team of data engineers collected all the relevant data fields required to help determine customers' creditworthiness from different disparate systems using our [Enterprise Data Bus \(EDB\) solution, ZIO](#).

After collection, ZIO's data pipeline helped with the continuous integration of data into our home-grown [AI-based Credit Underwriting solution, HALO](#).

By leveraging a combination of traditional financial data, historical repayment data, and alternate data, our machine learning technology identified nuanced patterns and created a unique credit underwriting model that exploits these patterns to identify risky borrowers at the time of underwriting. Also, the HALO machine learning model helped the bank with continuous risk assessment and scrutinizing approved loan portfolios in real-time.

Finally, the model was continuously trained to predict and monitor credit risk for different loan products and deployed the solution in the bank's environment.

## HOW ZUCI SYSTEMS HELPED?



Our project team started with a discovery phase by conducting a 3-day workshop with the stakeholders



Understood overall requirement, end-to-end loan life cycle, challenges, and business goals



Collected a sample set of customers with pre-defined data fields for creating a credit underwriting model



With API calls, our team of data engineers fed the sample set into HALO for data analysis, feature extraction, and curation, and finally built an accurate underwriting model



Presented a demo to all stakeholders with all the necessary KPI's and addressed all questions from stakeholders

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## HOW ZUCI SYSTEMS HELPED?



Predicted creditworthiness of customers by scoring the sample set customers



After satisfactory results, the bank provided a more extensive sample set to train the model for better accuracy



Once all stakeholder feedbacks were addressed, our team deployed HALO to the bank's production environment



Provided HALO product documentation (including a system administration guide), 24/7 product support, oversight for production rollout, and post-production support to ensure successful business adoption





**BUSINESS OUTCOME**

**100%**

Transparency in the loan approval process

**7%**

Decrease in delinquencies

**10x**

Faster loan approvals

**11%**

increase in loan revenue

**77%**

Reduction in risk assessment effort (equivalent to 800 FTEs)

ROI realized in **3 months**



## TECH STACK

AI-BASED CREDIT UNDERWRITING SOLUTION



**HALO**

ENTERPRISE DATA BUS (EDB) SOLUTION

**ZIO**



**WANT TO MITIGATE RISK AND BIAS WITH AI-DRIVEN CREDIT UNDERWRITING? HALO CAN HELP!**  
DROP US YOUR EMAIL, AND OUR EXPERTS WILL GET IN TOUCH.

Get Started with HALO →



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