

# Credit Risk Modelling for a leading SEA Loan Provider



## Client Overview

- The Client is a leading holding conglomerate that capitalizes on fintech, as well as the best emerging technologies in the market, to provide financial services to the under-served in Southeast Asia

## Business Challenges

- There are two separate PDFs for each customer which needed to be merged which contains the following:
  - Loan related information of customer
  - Geographic details of each customer
- A customer may have taken multiple loans, which needed to be summarized at a row level using business logic

## Project Overview

- The client has access to all the loan and customer related information, in PDF format.
- The project leveraged teX.ai to extract and summarize the information from the PDF files at a row level, following which predictive analytics was performed to evaluate credit worthiness and loan eligibility of the customer.
- Power BI was used to create dashboards to get an overview of the kind of loans, repayment rates, customer churn rate, sales rep performance and much more.

## Indium Solution

To predict if a loan was to be offered to a target customer, Indium leveraged the following:

- tex.ai, Indium's text analytics product, to extract customer related loans and geographic details at a row level since this information came from two separate PDFs.
- Custom built business logic to summarize the customer related information at a row level.
- Feature selection of variables to decide the best inputs for the machine learning algorithm.
- XGBoost supervised learning algorithm to validate and categorize if it was "Good", "Risky" or "Bad" to offer loans to customers based on their past loan repayments.
- Intuitive Power BI dashboards to display the aggregated KPIs.

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## Tools

- **Python** – Implementation
- **XGBOOST** – Supervised Learning Algorithm
- **PostgreSQL** – Database
- **PowerBI** – Visualisation

## Business Impact

- The machine learning assisted solution helped increase the PULL THROUGH RATE by 40%
  - This in turn led to decrease in LOAN CYCLE TIME by 30%
  - The CUSTOMER ACQUISITION RATE went up by 25% in a span of just 3 months
- The APPLICATION APPROVAL RATE went up by 40%, as human biases were removed from the approval process.
- There was a 20% drop in CUSTOMER ACQUISITION COSTS, owing to the automated and streamlined process.
- The existing system was then improved to start sending personalized messages to target customers to provide seamless customer experience and improve customer loyalty.



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