

## PROJECT STATEMENT

- Goldbell Financial Services (GBFS) is a subsidiary of Singapore's market leader in industrial vehicles, Goldbell Group, and is currently the preferred financing partner for corporates and individuals with automotive needs.
- Problem Statement: **How can GBFS enhance its lending decisions for corporate clients using a credit scoring model?**
- As the current corporate loan approval process relies heavily on employee judgement, the introduction of analytics could improve the loan assessment procedures by combining both the benefits of data analysis and human judgement.
- Through a credit scoring model, the team aims to automate loan application procedures and flag out subjective factors for review, thereby allowing employees to shift their focus to factors that require more human judgement.



## PRESCRIPTIVE & PREDICTIVE MODELS



### Prescriptive Analytics: Credit Scorecard

Existing customers are assigned credit scores based on past repayment patterns. Those with scores between 300 and 500 are flagged for review.



### Prescriptive Analytics: C5.0 Rule-Based Model

The boosted model generates a list of characteristics of clients that are likely to default. These characteristics serve as guidelines for loan evaluation.



### Predictive Analytics: Logistic Regression

Average Credit Balance, Company Age and Paid-up Capital are used in the normalized model to predict loan defaults of new applications.

## KEY RECOMMENDATIONS

### Data Collection

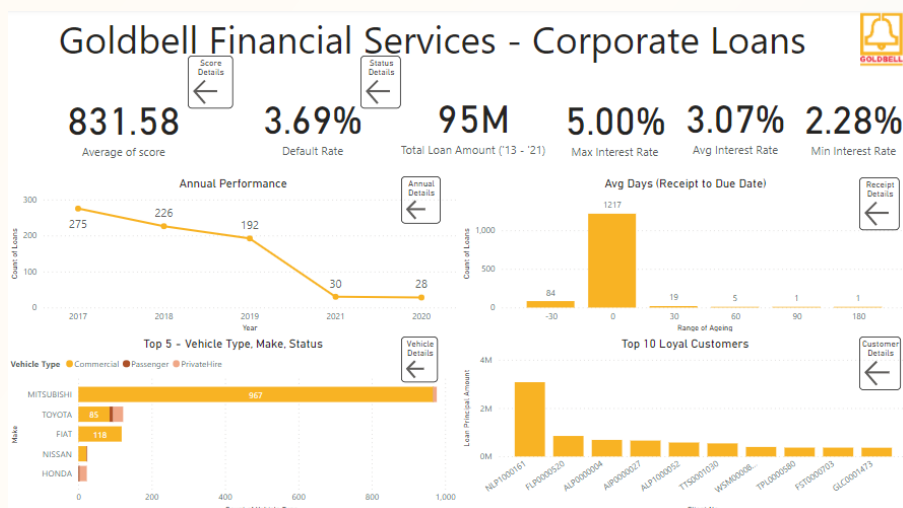
- More granular data for corporate clients required to improve model training
- Client's financial data will be very useful

### Retraining of Model

- Models are as good as the data they integrate
- More data collection and integration will lead to a more optimal model with higher accuracy



## MANAGEMENT DASHBOARD



### Intended Audience:

Potential Investors & Upper Management

### Purpose:

To allow GBFS to monitor and analyse their corporate loans at a glance

**Vehicle:** Overview of the Make (e.g. Mitsubishi, Toyota) of vehicles in demand by Vehicle Model and Vehicle Type  
*Insights* – Making vehicle-related decisions or presenting data to vehicle suppliers or investors

**Loan:** Breakdown of NPL Status, annual performance based on Loan Principal Amount and repayment patterns from the Average Days from Receipt to Due Date  
*Insight* – Monitoring NPL Status and relationships between NPL Status and other variables

**Client:** Overview of the corporate clientele by frequency of borrowing, Location and Business Activity  
*Insight* – Performing targeted analysis by drilling into loyal customers to understand their financing needs

**Scorecard:** Distribution of scores of existing customers generated by the Prescriptive Analytics Credit Scorecard  
*Insight* – Reviewing risky client profiles based on the user's selected range of credit scores.

## KEY RECOMMENDATIONS

### Integration of Industry Averages

- Allow for better comparison of GBFS against industry averages
- Improve communication of firm's performance

### Development of "Super Dashboard"

- Combine other internal datasets to create a one-stop dashboard for every employee to analyse data easily