Budgeting & Planning - Data Science Case Study

Background

Moladin provides capital for agents to buy used cars and in return Moladin charges fees (admin fee & aging fee) to agents when the cars are successfully sold.

Every car buyout proposal by an agent has to be approved by the branch manager. In order to make an informed decision, the branch manager has to consider several parameters.

Objective

To assist the branch managers in the approval process whether a car is worth buying or not given the historical dataset.

Prompt

1. Define what poor quality buyouts.
2. Diagnose potential root causes of poor quality buyouts.
3. Propose a solution to prevent poor quality buyouts (use approach and tool of your own preference - data science model using Python/R, statistical modeling using Google Sheets, etc).
4. Validate reliability of your model by splitting your dataset into train and test.

Data Dictionary

Column	Description
product_id	Unique identifier for every buyouts
inspection_score	- Measurement of the car condition - Higher score corresponds to better car condition
buy_price	Car buying price - Price at the
admin_fee	- Fee charged based on car buying price - Charged in front (when bought)
aging_fee	- Fee charged based on inventory days - Charged at the end (when sold)
sell_price	Car actual selling price

Target Selling Price = Buying Price + Admin Fee + Aging Fee

Notes

1. Feel free to reply all to the email if you have any questions.
2. Convey your thoughts clearly, logically and in a structured manner (Google Docs or Slides is preferred).
3. Expected time to complete the assessment is 5 days, but please don't hesitate to let us know if you need more time to give the best output.