IDEATHON - CONFLUENCE

1. PROBLEM STATEMENT

Statistics say that carbon based industries will not sustain longer. Carbon has destructive impacts on climate change.
Banks mainly finance oil well, coal mine, coal power plant, fossil fuel projects which are responsible for emission of GHG. Between 2016 and 2020, the world's 60 largest private sector banks (in term of assets) lended almost $3.8 trillion into fossil fuel projects and companies globally. Providing finance to companies without having a method to check how much that company/business is responsible for damaging climate change is harmful. To ensure safety for the environment, banks should analyse the sustainability of the business before providing loans.

2. GOAL

Our main goal is how banks can help in reducing the climatic change. As a part of this we mainly have focused on the banks lending sector i.e., providing loans to different Business/Industries/Individuals. We have come up with an idea of creating an automation tool which will help banks to see how a particular customer directly or indirectly is responsible for climatic change. The tool will analyse the factors that have an effect and we give us some score. Considering all factors which banks generally take as an input and clubbing it with the scores that we got by our tool will decide what rate of interest bank should charge or whether bank will provide loan to that particular business.

3. SOLUTION / APPROACH

We are defining three different factors where scores will be provided by the automation tool.

1. Trust Score
2. Sustainability score
3. Environment Score

We will be asking customers to provide the bank with a Sustainability report. This report should contain the percentage of carbon emission, how much heat is produced, production percentage, sustainability percentage and more factors (defined later). We will take these factors as an input for calculating the scores.

1. TRUST SCORE:

- When applying for a loan for a business, the customer needs to submit the sustainability report..
- We will build an automation tool to check whether the data in the report produced by the customer is correct or not.
- Here we will be using already existing data of different companies, their emission and production percentage data for that particular sector and build a ML model and will train it using these data.
- Now for checking correctness of information provided by customer, we will input that data to already trained model which will provide us whether the customer gave the right information or not.
- Based on the correctness of the information provided by the customer, we will define some score, which we call the **Trust Score**.

Carbon Score(optional native approach): The values provided by customer in sustainability report are corrected to some confidence using Trust Score. After that we will use these new values and some algorithm(we will define it later) to predict how much carbon footprints the proposed business can produced over a year in the form of carbon score(i.e. If the business produces a large amount of carbon then the carbon score is larger for that and vice versa) and according to that appropriate weightage given to it for final interest rate calculation i.e higher the carbon score, the more interest rate can be applicable.

2. SUSTAINABILITY SCORE:

- As we now have the value of different factors from sustainability report, using these values and some algorithm(we will define it later), we will calculate a score, which will be called **Sustainability Score**.
- The permissible rate for each of the factors like percentage of carbon emission, how much heat is produced, production percentage is finalized by considering the datasets from the existing regulated industries.
- Based on how good it is, the sustainability score will be calculated by the model.

3. ENVIRONMENTAL SCORE

- Based on the trust score and the sustainability score, environmental score can be calculated by taking appropriate weightage.
- And based on this environmental score, the bank can charge the interest rate.

- This can be the initial step and after these things are done, other verification processes for the bank to provide loans can be carried forward.

4. BENEFITS / IMPACT

- Banks can have a high interest rate for the low environmental score and comparatively less interest rate for the businesses with high environmental score, thereby reducing the risk for the bank and also to the environment.
- These environmental impact checks are done by the automation tool, thereby reducing the time and effort.
- The reports produced by the customer can also be cross checked by an automation tool thereby ensuring security.
- And at last the extra profit generated by higher rate of interest can be used to initiate sustainable planting activities in the society.